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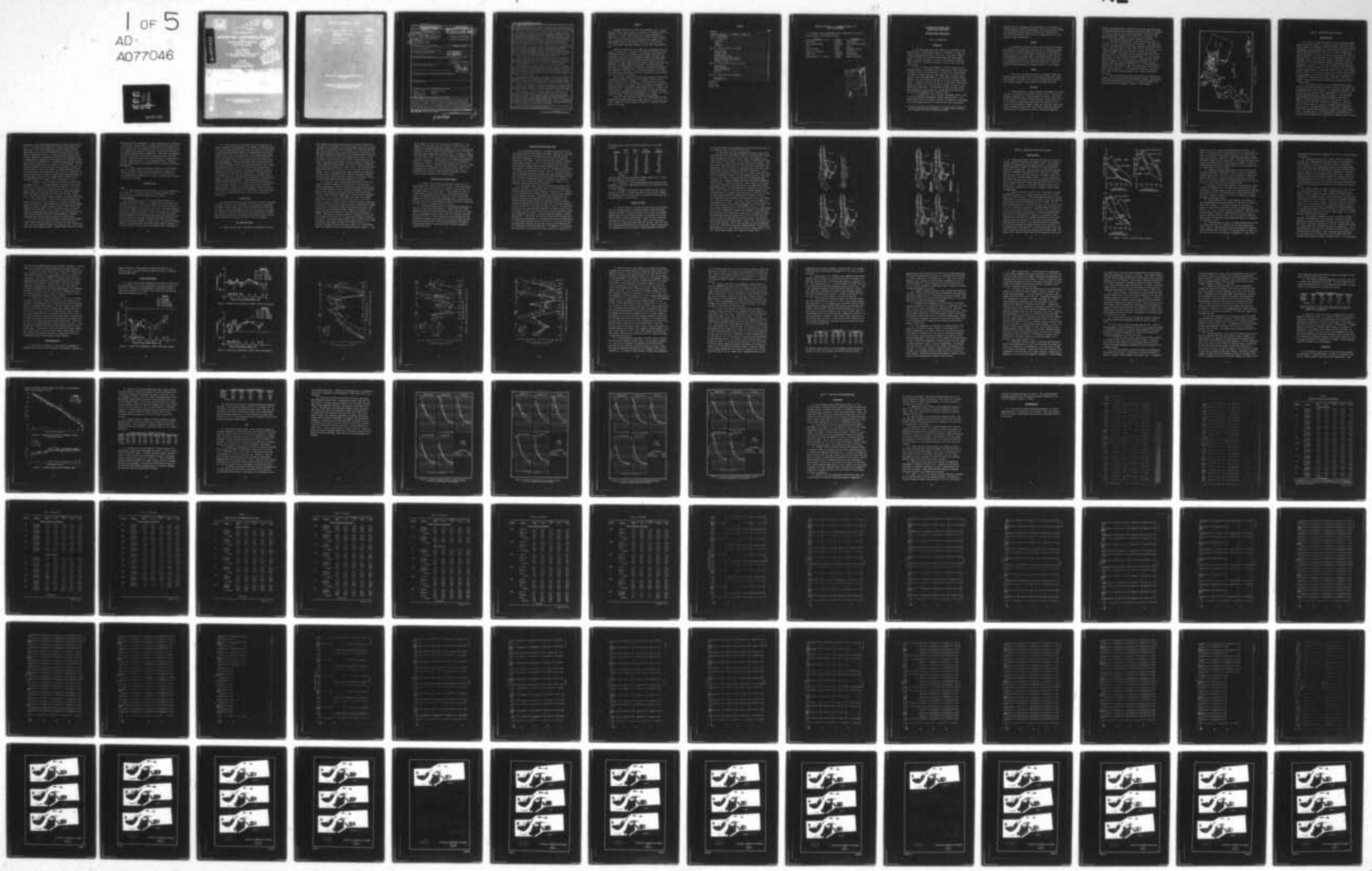

TECHNICAL REPORT HL-[illegible]

MAYPORT-MILL COVE MODEL STUDY

Report 2

MAYPORT NAVAL BASIN STUDY

Hydraulic Model Investigation

by

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Hydraulics Laboratory

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August 1979

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2	Support [illegible] Study	August 197[illegible]
3	19[illegible] Case Study	September [illegible]

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A fixed-bed model of Mayport-Mill Cove, constructed to scales of 1:500 horizontally and 1:50 vertically, reproduced a portion of the Atlantic Ocean adjacent to the entrance and the St. Johns River upstream to Hibernia Point. The purpose of the model study was twofold: (a) to investigate the effects of proposed improvement plans for the Mayport Naval Basin area on existing shoaling rates, hydraulics, salinities, and flushing; and (b) to investigate the effects of proposed improvement plans in the Mill Cove area on flushing, hydraulics, salinities, and channel shoaling. The model study was conducted in ~~(Continued)~~

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20. ABSTRACT (Continued)

three phases: phase 1 involved the model verification tests, phase 2 involved the Mayport Naval Basin study, and phase 3 involved the Mill Cove study. Phase 2 is reported herein; phases 1 and 3 are reported in Reports 1 and 3 of this series.

The model verification tests described in Report 1 indicated that the model hydraulic and salinity regimes were in satisfactory agreement with those of the prototype for comparable conditions. Model verification also included a comprehensive shoaling verification of shoaling rates and patterns in the navigation channel and Mayport Naval Basin. During the shoaling verification, model operation procedures were developed by trial and error to achieve satisfactory reproduction of observed prototype shoaling distribution patterns within the various reaches of the navigation channel and in Mayport Basin. This report contains the results of tests conducted for phase 2 of the study.

Based on model shoaling test results conducted for 11 proposed plans, four plans were selected on their merit to reduce shoaling within the basin for further, more extensive testing. Plans 1, 3, 4B, and 5B were tested extensively. Model test results showed that none of the four plans would cause any major change in and along the navigation channel with respect to existing current velocities, salinities, channel shoaling, or dye flushing; however, each plan did result in considerable changes within the basin.

Plans 1 and 3 resulted in better navigation conditions in the basin in the vicinity of the carrier berths as maximum current velocities in this area were generally less than those of base conditions. Plans 4B and 5B resulted in increased maximum flood current velocities in the carrier berthing area that could create berthing problems for the carriers and other vessels.

Flow predominance calculations showed that plan 1 resulted in increasing the net flow in the ebb direction throughout the basin by about 2.7 percent, while plan 3 resulted in decreasing the net flow in the ebb direction by about 2.7 percent. Plans 4B and 5B changed the base condition net ebb flow into a significantly strong net flood. Maximum effects to base condition flow predominance for each plan were similar in that greatest effects were observed at middepth and bottom elevations.

Average salinity concentrations in navigation channel, exit channel, and basin were generally slightly lower than the base for each of the four plans investigated. There was no indication that one plan resulted in more or less change than another, as a very large percentage of the data was within limits of accuracy of repeating identical model tests, particularly within the basin.

Results of dye tests do not indicate any significant improvement of flushing for plans 1 and 3. Results for plans 4B and 5B indicate a significant improvement in overall flushing within the basin near the bottom. Lesser reductions were observed at shallower depths with essentially no change near surface.

Plans involving no secondary openings, gated or otherwise, were more effective in reducing shoaling in the Mayport Naval Basin. Plan 1 was the most effective as model tests showed a reduction in the present rate of approximately 47 percent. Plan 2 showed a reduction in shoaling rates of about 46.6 percent, and plan 3 resulted in reducing the shoaling rate by about 39.5 percent. Plans involving ungated openings (plans 4, 4A, 4C, 5, 5A, and 5C) each resulted in an increase of shoaling in the basin. Plans involving gated openings (4B and 5B) effected a reduced shoaling rate in the basin but were not as efficient as plans which did not include an opening.

Surface current pattern photographs showed no adverse effects resulting from any of the four plans investigated extensively.

PREFACE

The model study reported herein was requested by the U. S. Army Engineer Division, South Atlantic, in a letter to the Office, Chief of Engineers, U. S. Army, dated 14 April 1973, and was subsequently approved in a letter to the South Atlantic Division, dated 5 November 1973. Authority to initiate the investigation was granted by the U. S. Army Engineer District, Jacksonville, in a letter to the Director, U. S. Army Engineer Waterways Experiment Station (WES), dated February 1974.

Design and construction of the model were accomplished during the period of February 1974 to November 1975; hydraulic and salinity verification were carried out during the period December 1975-June 1976. Collection of base test data and navigation channel and Mayport Basin shoaling verification were accomplished during the period July 1976-February 1977. After completion of all phases of model verification and base tests, the Mayport Basin study phase of the investigation was initiated. All programmed plan testings for the Mayport study phase were completed in September 1977. This report describes the problems that necessitated this phase of the model investigation and the studies that were conducted in the model.

The study was conducted in the Hydraulics Laboratory of WES under the general supervision of Messrs. H. B. Simmons, Chief of the Hydraulics Laboratory; F. A. Herrmann, Jr., Assistant Chief of the Hydraulics Laboratory; R. A. Sager, Chief of the Estuaries Division; G. M. Fisackerly, Chief of the Harbor Entrance Branch; and N. J. Brogdon, Jr., Project Engineer. Technicians of the Estuaries Division who assisted throughout the investigation included Messrs. J. W. Parman, D. M. White, and D. M. Stewart. This report was prepared by Mr. Brogdon.

Directors of WES during the course of this investigation and the preparation and publication of this report were COL G. H. Hilt, CE, COL John L. Cannon, CE, and COL Nelson P. Conover, CE. Technical Director was Mr. F. R. Brown.

CONTENTS

CONVERSION FACTORS, U. S. CUSTOMARY TO METRIC (SI) UNITS OF MEASUREMENT

U. S. customary units of measurement used in this report can be converted to metric (SI) units as follows:

Multiply	By	To Obtain
cubic yards	0.7645549	cubic metres
cubic feet per second	0.02831685	cubic metres per second
feet	0.3048	metres
feet per second	0.3048	metres per second
miles (U. S. statute)	1.609344	kilometres
square feet	0.09290304	square metres
square miles (U. S. statute)	2.589988	square kilometres

MAYPORT-MILL COVE MODEL STUDY

MAYPORT NAVAL BASIN STUDY

Hydraulic Model Investigation

PART I: INTRODUCTION

Background

1. This model study was a joint effort by the Department of the Navy and the U. S. Army Engineer District, Jacksonville, to study two separate problem areas on the St. Johns River. This report (Report 2) presents the results of the Mayport Naval Basin study (Navy study); Report 1 presents the hydraulic, salinity, and shoaling verification phase; and Report 3 presents the results of the Mill Cove study (District study).

2. The U. S. Naval Station Mayport is vitally important to the national defense of the United States of America and is best exemplified by the fact that it is the home port of 27 ships of the Atlantic Fleet, including two aircraft carriers. The compact layout of support facilities for fleet units makes Mayport an economically efficient base and because of its direct access to open sea, it is also a strategic installation. A large ship can get under way and be operating in unrestricted waters in a period of 15 to 30 min; smaller vessels, of course, can be operational in less time. This advantage also makes routine training more economical as fuel is saved due to relatively short transit distances to nearby designated fleet operating areas.

3. In consideration of above important advantages, however, there is one very prevalent disadvantage: Mayport shoaling history. The basin shoaling rate is in excess of 600,000 cu yd* annually. Maintenance of the basin design depth of 42 ft mean sea level (msl) necessitates

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* A table of factors for converting U. S. customary units of measurement to metric (SI) units is presented on page 3.

expensive periodic dredging operations and hampers the operational advantages discussed in the above paragraphs. Not only is present dredging cost excessive but nearby disposal sites are fast becoming extinct, which means even greater future cost as the dredged material has to be carried to remote dumping areas.

Purpose

4. The purpose of the model study as stated above was undertaken to investigate two problem areas located in the St. Johns River system. The first study, reported herein, was conducted for the Department of the Navy in an effort to help develop and investigate plans that would reduce shoaling in the Mayport Basin. The second study was conducted for the Jacksonville District to develop and test plans that would improve flushing in Mill Cove and reduce the silting rate. Details of the Mill Cove investigation are contained in Report 3 of the series.

Scope

5. This report describes the results of the Mayport Basin study. Eleven proposed improvement plans were investigated during the course of this phase of the model study. Seven of the plans were subjected to brief testing, primarily visual observations and shoaling tests.

The Model

6. The Mayport-Mill Cove model reproduces approximately 287 square miles of the prototype area including a portion of the St. Johns River upstream to Hibernia Point (4 miles upstream from Doctors Lake); about 93 square miles of the Atlantic Ocean from about 5 miles south and north of the respective jetties and offshore areas well beyond the -60 ft contour; and the system of sloughs, creeks, and rivers that affect tidal action throughout the model area. The Atlantic Intracoastal Waterway from the point of intersection with the St. Johns River navigation

channel was reproduced about 5 miles in the north and south directions. The model upstream from South Jacksonville was bent slightly (11 degrees) to the east in order to fit it within the shelter. The Doctors Lake area was also bent 11 degrees to fit this area in the shelter. The limits of the area reproduced are shown in Figure 1 and Plate 1.

7. The model was constructed to linear scale ratios, model to prototype, of 1:500 horizontally and 1:50 vertically. From these basic ratios the following scale relations were computed by the Froudian relations: slope 10:1, velocity 1:7.07, time 1:70.7107, discharge 1:176,777, volume 1:12,500,000, area (cross section) 1:25,000, and area (horizontal) 1:250,000. The salinity and dye concentrations ratios for the study were 1:1. One prototype cycle (semidiurnal) of 12 hr 25 min was reproduced in the model in 10 min 32.34 sec. Horizontal grid coordinates are based on the Florida coordinate system (East Zone), and vertical control was based on USC&GS msl data. The model was approximately 500 ft long and 100 ft wide at its widest point and covered an area of about 32,000 sq ft. It was completely enclosed to protect it and its appurtenances from the weather, and to permit uninterrupted operation.

8. For the tests reported herein, the model was a fixed-bed type, molded to the most recent prototype hydrographic surveys. A description of the model and appurtenances, details of the model adjustment, and model verification are presented in Report 1 of this series.

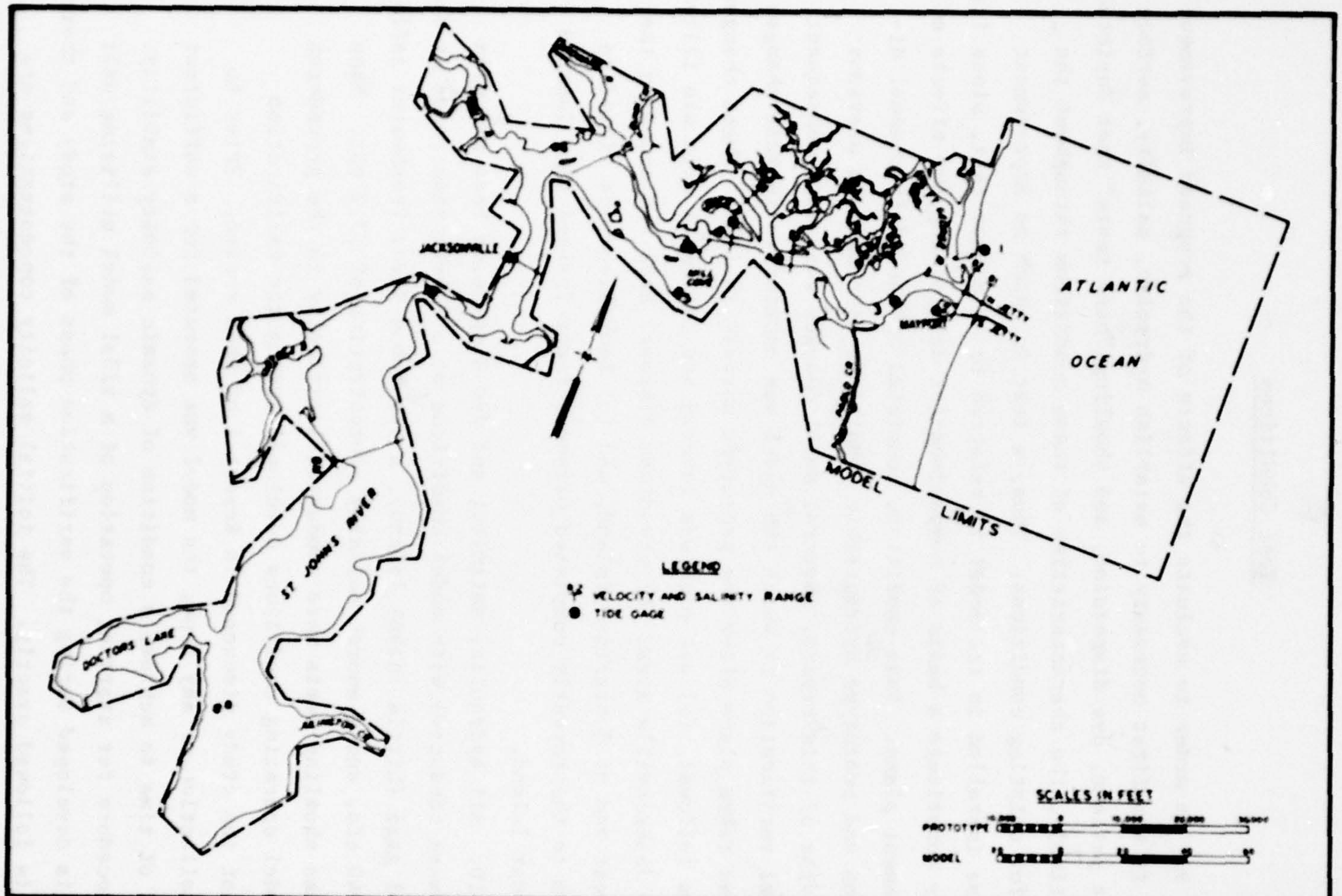

Figure 1. Model limits

PART II: BASE AND PLAN TEST PROCEDURE

Test Conditions

9. In order to evaluate the effects of the proposed improvement plans, it was first necessary to establish hydraulic, salinity, surface current pattern, dye dispersion, and shoaling "base tests" that depicted, respectively, the characteristics of these conditions throughout the model for existing conditions. Thus, a test in which no improvement plan was installed in the model is referred to as a base test, since its results constitute a basis of comparison for determining the effects of improvement plans. Base conditions consisted of the 38-ft channel dimensions and prototype hydrographic conditions discussed in previous paragraphs of this report. Several small changes were made subsequent to model verification in which the model was updated to include changes that had taken place after the prototype surveys in 1974. These changes were as follows: (a) one pier was removed and one small slip was filled in the Jacksonville area, (b) the diked disposal area was added on the northwest end of Quarantine Island, and (c) Back River was filled to conform to the recently completed Offshore Power Systems slip located on Blount Island.

10. All hydraulic, salinity, and dye dispersion base and plan tests were conducted with model conditions of a 5.4-ft tide range at the control gage (Little Talbot Island), a St. Johns River freshwater inflow of 8,940 cfs, and a source salinity concentration of 33.0 ppt. Base and plan shoaling tests were conducted identically to the procedures and model operating conditions developed during the verification phase of the study discussed in Report 1 of this series. Prior to data collection of any type, the model was operated for a sufficient period of time to achieve a condition of dynamic salinity stability. The procedure for starting operation of a tidal model utilizing salt water is developed during the verification phase of the study and thereafter is followed exactly. The initial salinity concentrations are artificial; and the model must be operated for a period of time to allow

salinities to reach stable values with respect to time, depth, and location. It was found in the Mayport-Mill Cove model that the best procedure was to flood the area upstream from South Jacksonville with fresh water and the ocean and downstream area with ocean water (salt water) to high-water elevation. A barrier installed across the model at South Jacksonville to separate the fresh and salt water during the flooding stage was removed and the tide generator and freshwater inflow were initiated to begin the test. The model was operated until salinity stability was achieved prior to initiation of data collection. For the 8,940-cfs freshwater inflow conditions it was necessary to operate the model for about 12 tidal cycles (about 2 hr) before relatively stable conditions existed, after which data collection could be initiated. To ensure a higher degree of salinity stability when obtaining salinity or dye measurements, salinity and dye samples were not taken until the model had operated for at least 20 tidal cycles (about 3-1/2 hr).

11. Locations of stations monitored during base and plan tests are shown in Plate 1. Tide gage locations are identical with those in the verification except that three gages were added (1A, 9, and 10) to more accurately define tidal changes resulting from any plan investigated. Gage 1A reflects tidal conditions in the ocean, while gages 9 and 10 are located at Dame Point and in the Mill Cove weir, respectively. Gage 1 was the control gage throughout all base and plan tests.

12. The verification of current velocities and salinities was based on the results of data obtained at 37 locations throughout the estuary (see Report 1). This coverage was not sufficient in the Mayport Basin area to give a complete composite picture of the effects of any possible future improvement plan to be tested; therefore the station location and numbering scheme used during the verification phase of the model study was abandoned during the testing phase for a sampling scheme that would better define the effects of proposed plans.

13. Mile 0 of the authorized navigation channel was approximately 5,000 ft west of the outer end of the jetties and was the point of origin for the new numbering scheme for stations in the St. Johns River. Thus, mile 0 was designated range 0. Ranges located along the St. Johns

River generally were designated by a number representing their locations in river miles. Ranges located in between river miles were given composite designations, e.g. ranges OA and OB were located at miles 0.4 and 0.7. Ranges located seaward of mile 0 and in the Blount Island Channel likewise were assigned special designations. These special designations were required because of the way data processing computer codes were encoded. Individual stations located on each range are designated with a letter, beginning with "A" at the southernmost station. Stations located in Mayport Basin were designated by letters prefixed by MB (e.g. MBA, MBB, etc.).

14. Prior to conducting hydraulic, salinity, or dye dispersion tests in the Mayport Basin study, shoaling tests were conducted of 11 proposed plans to identify those most likely to be effective in reducing maintenance dredging costs. The best plans then were subjected to more detailed testing.

Hydraulic Tests

Tides

15. Tidal height data were obtained at 11 locations throughout the model (Plate 1). The data, collected at half-hour intervals, were plotted and smooth curves were drawn through the points.

Current velocities

16. Base condition current velocity data were obtained at 33 locations throughout the model for the Mayport Basin study, except that one additional station was included in tests of two plans which incorporated a new channel from the basin to the river. Data were obtained at the surface, middepth, and bottom at half-hour intervals at all locations where bottom elevations exceeded -6 ft msl. Only surface and bottom data were obtained at locations where bottom depths were between -2 and -6 ft msl, while only one sample (surface) was obtained at locations where the bottom elevation was -2 ft msl or less. The half-hour measurements were plotted and smooth curves were drawn through the points. Locations of current velocity stations are shown in Plate 1 and Figure 2.

17. Current velocity data for base and all plan tests were analyzed to determine flow predominance. This method of presenting current velocity data reduces magnitude, direction, and duration of the currents to a single expression that defines the predominant direction and percentage of total flow at any given point. This expression was derived from a conventional plot of velocity versus time at any given point. The area subtended by both ebb and flood portions of the curve was measured and summarized. The area subtended by the flood portion of the curve was then divided by the total area and multiplied by 100 to determine what percentage of the total flow was in the flood direction. A negative (-) sign and a positive (+) sign were designated to indicate ebb direction and flood direction, respectively. For simplification, the percentage of flow in the flood direction was calculated, then a value of 50 percent was subtracted from the calculation to determine predominant direction and magnitude. Using this method of analysis, a value of 0 percent indicates that flows in both the ebb and flood directions are equally balanced, i.e., the areas under the ebb and flood curves are equal. A value of +50 percent indicates that flow at that point is in the flood direction at all times during a tidal cycle, while a -50 percent value indicates flow in the ebb direction throughout a tidal cycle.

Salinity Tests

18. Base test salinity data were obtained at the same 33 locations throughout the model as for velocities. The procedure for determining the number of depths sampled per location was identical with that used for current velocity measurements, except in the basin where five depths were monitored. Salinity concentrations were determined with a salinity meter and were later plotted and smooth curves drawn through the points. Locations of salinity stations are shown in Plate 1 and Figure 2.

Dye Dispersion Tests

19. Model tests were made to determine the flushing rate of the

basin using the following test procedure; the basin was blocked off at low water and a given amount of dye was thoroughly mixed with the water. The initial concentration of the dye mixture in the basin for base and each plan test was 8,700 ppb. The uniform salinity of the water in the basin after mixing was a combination of the average salinity existing in the basin at the time the block was installed plus 1 litre of 33 ppt salt water in which the dye was mixed prior to introduction into the basin. Following the mixing step, the block or blocks (secondary opening when appropriate) were removed at the next low water and sampling was initiated and continued for 16 tidal cycles. The first basin water samples were obtained at hour 4.75, or 3 hr after the block had been removed. Prior to initiating the dye test, the model was operated for 20 tidal cycles to establish salinity stability throughout the model. The exact procedure was followed for base and all plan tests to ensure that the initial concentration was the same for all tests.

20. Locations of the stations sampled are shown in Plate 1 and Figure 2 and were the same as the stations used for velocity and salinity measurements. Within the basin proper, samples were obtained at five depths (surface, quarter, middepth, three-quarter, and bottom), while only two depths were monitored outside the basin (surface and bottom). Outside the basin, samples were obtained as near as possible to time of local occurrence of high-water slack (hws) and low-water slack (lws) at each individual location over a period of 16 tidal cycles. Currents in the basin are very complex and erratic. Slack times in the basin varied over such a wide range that it was decided to sample at times that corresponded to middepth slack periods occurring at stations located in the navigation channel adjacent to the basin. The sampling procedure was identical for all tests and is described as follows. Hws samples at stations located at the sump and in the ocean were obtained at hours 7.0 and 7.75, respectively; stations located in the Atlantic Intracoastal Waterway (AIWW), north and south of the navigation channel, were sampled at hour 9.25; stations located in the entrance, including the basin, starting at range Y up to and including range 5 were sampled at hour 10.25; stations located on ranges 7, 9, and

10 were sampled at hours 11.0, 11.25, and 11.5, respectively. Lws samples in the sump and ocean were obtained at hours 1.0 and 1.75, respectively; the AIWW stations were sampled at hour 3.0; stations just upstream of the basin (ranges 1A-3) were sampled at hour 4.5; Mayport Basin and range 5 samples were obtained at hour 4.75; samples on ranges Y-OB and 9 were collected at hour 5.0; and stations on ranges 7-10 were collected at hour 5.25. Concentrations of the samples were measured by means of a fluorometer. The fluorescent dye used in the model was conservative, that is, it exhibited very minimal decay with time. Model dispersion and flushing rates thus cannot be directly related to the prototype without application of the appropriate decay rate. All measurements are plotted on semilogarithmic graph paper to make a detailed analysis possible at each sampling point.

Surface Current Pattern Mosaics

21. Surface current pattern mosaics made for base test and Mayport Basin plan conditions include a portion of the Atlantic Ocean, the entrance area, and portions of the estuary on either side of the navigation channel up to about range 5. These mosaics were used in evaluating the proposed plans effects on current patterns and navigation. The mosaics also provide a means for current velocity measurements in areas too shallow for measurements with the velocity meter. Surface current pattern photographs were made with the model reproducing a 5.4-ft tide and a freshwater inflow of 8,940 cfs.

22. The mosaics were prepared from time-exposure photographs of confetti floating on the water surface. A bright light was flashed immediately before the camera lenses were closed, resulting in a bright spot at approximately the end of each confetti streak which indicates the direction of flow. Current velocities can be determined from the photographs by measuring the lengths of the confetti streaks and comparing the lengths with the velocity scale presented in each mosaic. Photographs were taken at hourly (prototype) intervals throughout a complete tidal cycle.

Channel and Basin Shoaling Tests

23. As discussed in Report 1, the channel shoaling verification was conducted with the 34-ft channel installed. Base and all plan tests were conducted with the authorized 38-ft channel and model updates described in paragraph 9. For base and plan tests the channel was divided into nine reaches. The new reach (AA) was located in the navigation channel seaward of mile 0.0. The individual sections within each reach were changed from the variable lengths used in the model verification to a uniform length of 1,000 ft. Locations of test reaches and individual test sections are shown in Plate 2. The procedure followed during base and plan was identical with that described in Report 1, the only difference being the plan which was being investigated at that time. The model shoaling material was introduced into the model in exactly the same locations and manner as described in Report 1, even though the channel sections had been modified.

24. Two separate base condition tests using gilsonite were conducted for the basin. One base test (base test 1) was conducted with the 38-ft channel and above model revisions. Shoaling tests of plans 1, 2, and 3 (plans without a secondary opening to the basin) were conducted with the identical procedure. Following visual observations of the plans by the District and Department of the Navy personnel, it was decided that basin shoaling tests with improvement plans involving the secondary opening should be tested with the fleet (27 ships) reproduced to scale and anchored in the model, as shown in Plate 3. Each individual ship in the fleet was constructed from wood to the distorted model scale and placed in the basin in accordance with the anchorage scheme furnished by the Department of the Navy. The model ships were weighted to obtain proper draft. A second base test was then conducted with the addition of the ships as the only change. All basin shoaling tests with plans involving the secondary opening (plans 4, 4A, 4B, 4C, 5, 5A, 5B, and 5C) gated and ungated were conducted with the fleet anchored in the basin and results compared with results of base test 2. A comparison of the two base tests showed that the presence of the fleet resulted in a reduction in

the shoaling rate of about 8.2 percent as shown in the following tabulation:

Section	Base 1 cc	Base 2 cc	Base 1 % of Total	Base 2 % of Total
TB1	0	0	0.0	0.0
TB2	10	0	0.4	0.0
TB3	20	0	0.8	0.0
TB4	167	180	6.3	7.5
TB5	415	525	15.8	21.7
NE	730	755	27.7	31.3
SE	528	450	20.1	18.6
SW	357	240	13.6	9.9
NW	275	180	10.4	7.5
Slip	130	85	4.9	3.5
Total	2,632	2,415	100.0	100.0
% Change		-8.2		

Since the base tests were sufficiently similar, plan tests 1, 2, and 3 were not retested with the ships in the model.

25. In addition to the two shoaling base tests conducted inside the basin, a base test 3 using granulated plastic was conducted for the navigation channel.

26. A minimum of two identical runs was made with each plan installed in the model. Following the tests, the results were averaged and compared with the base test results to determine effects resulting from the construction of the plans.

Elements of Plans

27. Prior to selection of plans for model testing and establishment of a testing program, a conference was held at WES between Navy, Jacksonville District, and WES personnel for the purpose of discussing possible solutions to the shoaling problem in the Mayport Naval Basin. Plans included in these discussions were a sea-level canal connecting the basin (slip area) to the ocean and a canal connecting the basin (west side) to Chicopit Bay located west of the basin. These two plans were acknowledged as being potentially promising. However, Navy personnel eliminated the plans on grounds of being economically infeasible

since several rather large and expensive Naval facilities would have to be relocated in order to construct either canal.

28. Five basic plans were investigated during the course of the study; however, basic plans together with various combinations of these plans resulted in a total of 11 overall plans. The elements of the plans are described as follows. Plan 1 (Figure 2a) consisted of a dike about 1,900 ft in length which paralleled the basin exit channel. This dike and all dikes and/or groins in other plans were constructed to be impervious in the model and had top elevations above high water. Plan 1 was referred to as an extension to Wards Bank training wall. Plan 2 (Figure 2b) consisted of a 4,500-ft dike in the river constructed parallel to the navigation channel, with its beginning adjacent to the northwest end of the basin (the upstream end of the existing Wards Bank training wall). A small settling/turning basin was dredged immediately inside the dike to elevation -42 ft msl. Plan 3 (Figure 2c) consisted of the plan 2 dike with a connection back to the seaward end at Wards Bank training wall. This was essentially a combination of plans 1 and 2. Plans 4 and 5 (Figure 2d) involved only the secondary opening in the northwest corner of the basin. The opening width for plans 4 and 5 and all other plans involving the opening was held constant at 200 ft. Plan 4 was molded into the model at a bottom depth of -42 ft msl, while plan 5 had a bottom depth of -21 ft msl. Plans 4A and 5A (Figure 2e) were combinations of plan 1 (1,900-ft dike parallel to exit channel) and the secondary opening located at the northwest corner of the basin. Plan 4A had an opening depth of -42 ft msl, while 5A had an opening depth of -21 ft msl. Elements of plans 4B and 5B (Figure 2f) were identical with plans 4A and 5A, respectively, except that the openings were gated (closed) during the period between hour 10.25 of one tidal cycle and hour 4.5 of the next tidal cycle (ebb current period). The gate was opened during the period between hours 4.5 and 10.25 of each tidal cycle (flood current period). Plans 4C and 5C (Figure 2g) were a combination of the plan 3 dikes and the secondary ungated openings. Plan 4C had an opening depth of -42 ft msl, while plan 5C had an opening depth of -21 ft msl. The secondary opening on all plans had vertical walls.

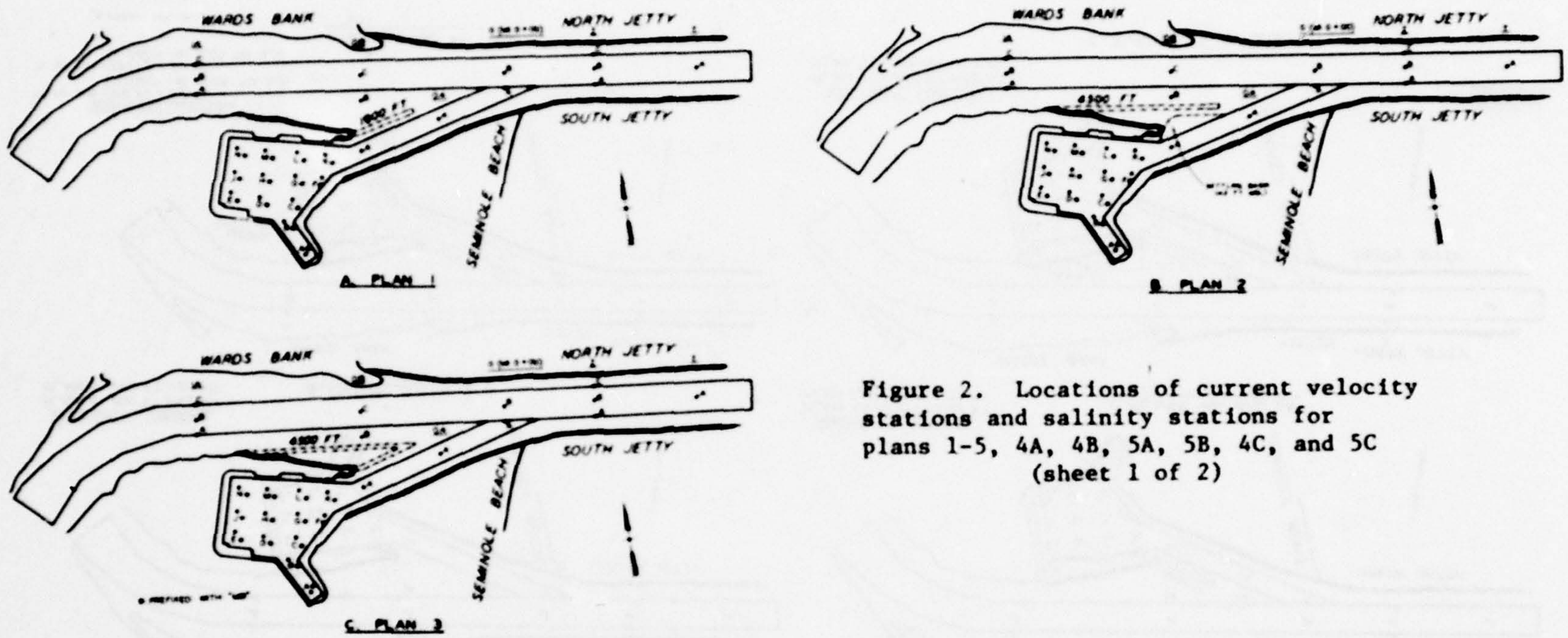

Figure 2. Locations of current velocity stations and salinity stations for plans 1-5, 4A, 4B, 5A, 5B, 4C, and 5C (sheet 1 of 2)

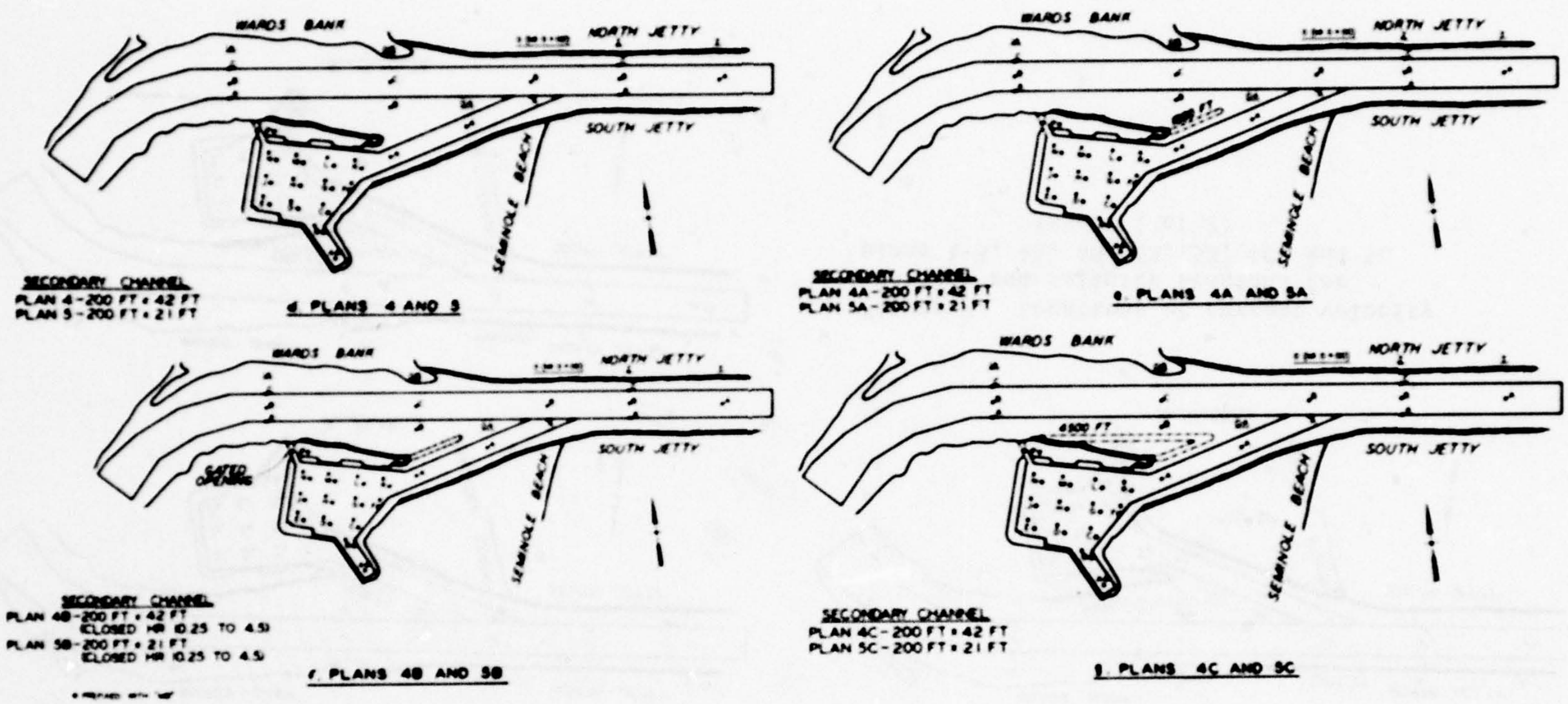

Figure 2 (sheet 2 of 2)

PART III: RESULTS AND DISCUSSION OF RESULTS

Shoaling Tests

29. Shoaling tests were conducted for the base and 11 plan conditions. Results of these tests are shown in Table 1 and in Figure 3. Locations of shoaling sections are shown in Plate 2. The shoaling section identified in Figure 3 as "EXIT CH" is actually the sum of sections TB-1 through TB-5. Base conditions, as previously discussed, varied for the Mayport Basin shoaling study. Base test 1 (no ships) was used as the base to determine effects in the basin of plans that did not involve a secondary opening (Plans 1, 2, and 3). Base test 2 (with model ships) was used as the base for determining effects in the basin of plans involving a secondary opening (Plans 4, 4A, 4B, 4C, 5, 5A, 5B, and 5C). Base test 3, utilized to determine effects of the various plans on shoaling in the navigation channel, did not include the model ships.

30. Tests to determine effects of the 11 basic plans on channel shoaling were limited to the downstream three reaches, AA, A, and B; results are shown in Table 1. Model tests showed that plans 4, 4A, and 4B resulted in a reduced shoaling rate in reach AA, while the remaining eight plans resulted in increased shoaling in this reach. The respective shoaling indexes in reach AA for plans 4, 4A, and 4B were 83.3, 66.7, and 33.3 percent, respectively. Shoaling indexes for plans 1, 2, 3, 4C, 5, 5A, 5B, and 5C were 216.7, 150.0, 133.3, 116.6, 116.6, 133.4, 133.3, and 133.3 percent, respectively. Although the shoaling index values for this reach appear to be drastic, it is pointed out that reach AA was not included in the channel verification as no prototype shoaling records were available. During base tests, material that deposited within the limits of this reach was recovered and measured; but the results represent an unknown deposition rate and pattern. It is emphasized that the volumes (30 cc for the entire reach in the base test) recovered for base and plan conditions were extremely small. For example, plan 1 showed an index value of 216.7 percent but had a total

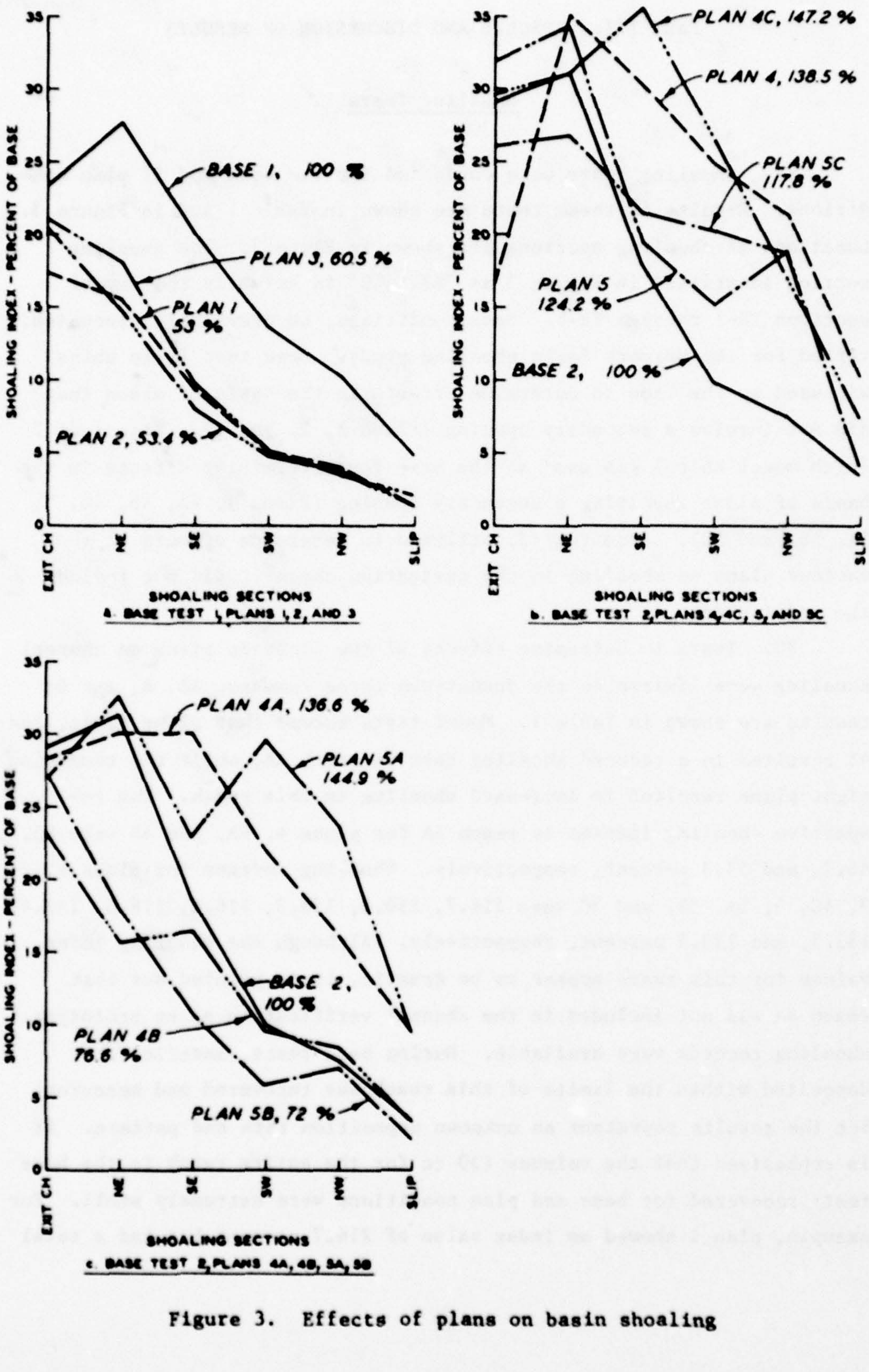

Figure 3. Effects of plans on basin shoaling

volume of only 65 cc of material deposited within the limits of the reach. On the other hand, no shoaling material was introduced into the model in or adjacent to this reach as was done for all other reaches; thus, the only source of material to reach AA was that material moved downstream through reach A by the currents. No reliable conclusions concerning the shoaling volume in reach AA can be reached as a result of channel shoaling tests for this area; however, it can be assumed that the volume would be relatively small.

31. Changes in shoaling index values in reach A resulting from plan tests were generally within the limits of accuracy of repeating identical model tests of this type. No plan resulted in reducing the shoaling index for this reach below 90.9 percent (plan 1), and only plan 4 (120.2 percent) increased the shoaling index above 107.2 percent. Very little effects were noted in shoaling patterns.

32. Shoaling in reach B was likewise not affected by any of the 11 plans investigated as all test results were well within the limits of accuracy of repeating tests of this type. Maximum shoaling index was 106.0 percent with plan 2 and minimum shoaling index was 91.9 percent with plan 5 installed. Again, as in reach A, no significant changes were noted in shoaling patterns.

33. Mayport Basin and exit channel shoaling test results for the 11 proposed improvement plans installed in the model are shown in Table 1 and in Figure 3. The results of plans 1-3 are shown in Figure 3a. These three plans did not involve a secondary opening. Plans 4, 4C, 5, and 5C results are shown in Figure 3b. These four plans involved secondary openings in combinations with the dike of plan 3. Figure 3c shows the effects of plans 4A, 4B, 5A, and 5B. These four plans involved the secondary opening (gated and ungated) in combination with the dike of plan 1.

34. Figure 3a shows that plans 1-3 reduced shoaling rates in the exit channel and basin, but altered overall shoaling patterns very little. Plans 1-3 shoaling index values were determined by comparing results with base test 1 (no ship). The shoaling index for plans 1, 2, and 3 are 53.0, 53.4, and 60.5 percent, respectively. Plans 1 and 2

reduced basin shoaling rates a greater amount than any of the other plans investigated.

35. Results with plans 4 and 5, shown in Figure 3b, compared with base test 2 data show that each would result in increased overall shoaling rates in the basin by 38.5 and 24.2 percent, respectively. Plan 4 resulted in a very substantial reduction in the shoaling rates in the exit channel, but the improvement in this area was offset by the large increases in other areas of the basin, especially in the southeastern, southwestern, and northwestern sections. Plan 4C resulted in a shoaling index of 147.2 percent, a substantial increase in shoaling. Shoaling patterns with plan 4C were similar to plan 4; however, exit channel shoaling was very near the base condition and the peak shoal was located in the southeast section instead of the northeast section with plan 4.

36. Shoaling indexes for plans 5 and 5C were 124.2 and 117.8 percent, respectively (Figure 3b). Plan 5 shoaling patterns were very similar to base conditions with small increases in all areas with the exception of the northwest section. Increased shoaling in this one area alone accounted for about 50 percent of the overall increase in shoaling in the entire basin. Plan 5C caused a reduction in shoaling in the exit channel and in the northeast section of the basin; however, the reductions in these areas were heavily outweighed by the large increases in the southwest and northwest sections of the basin. Each plan involving an ungated secondary opening and the plan 3 dike (plans 4, 4C, 5, and 5C) caused increased shoaling in the slip.

37. Plans 4A and 5A (Figure 3c), which consisted of secondary openings in combination with the dike of plan 1, resulted in rather significant increases in shoaling in all areas of the basin except the exit channel where small decreases were observed. Shoaling index values for plans 4A and 5A were 136.6 and 144.9 percent, respectively. Plan 4A showed significant increases in all sections of the basin except in the northeast and the exit channel. Plan 5A shoaling rates and patterns were very similar to base conditions in the exit channel and in the northeast and southeast sections of the model; however, very heavy shoals

developed in the southwest and northwest sections of the basin. Shoaling rates in the slip were increased significantly with plans 4A and 5A.

38. Results of tests conducted with plans 4B and 5B (gated openings in combination with plan 1) are shown in Figure 3c. Plans 4B and 5B resulted in reducing the shoaling index to 76.6 and 72.0 percent, respectively. With plan 4B installed in the model, major reductions in basin shoaling were realized in the northeast section and to a lesser extent in the exit channel. Shoaling rates or patterns in the other areas were not significantly affected by this plan. With plan 5B installed in the model, major reductions were obtained in the northeast, southeast, and southwest sections of the basin. Maximum effect was in the northeast section. The exit channel, northwest section, and slip were not significantly changed from base conditions.

39. Plans 1, 2, 3, 4B, and 5B resulted in reduction of the shoaling rates in the basin. Shoaling was increased with plans 4A, 4C, 5, 5A, and 5C. Plans involving only a secondary channel (gated or ungated) resulted in increased basin shoaling. Secondary channel plans combined with the best dike plan resulted in higher basin shoaling rates than the dike above. On the basis of these shoaling test results, plans 1, 3, 4B, and 5B were selected for more detailed testing. Plan 2 was not selected for additional testing because the model results indicated that the additional cost of constructing the settling basin (as compared with the cost of the 1,900-ft-long dike included in both plans 1 and 2) did not result in any less shoaling in the basin than that for plan 1. Thus, the additional construction cost would not yield any reduction in maintenance costs. Although plans 3, 4B, and 5B would have higher construction costs than plan 1 and also exhibited higher shoaling rates, they were included in the detailed test phase to ensure the selection of a satisfactory plan from the standpoint of basin flushing.

Tidal Observations

40. None of the four plans (1, 3, 4B, and 5B) investigated extensively had any effects on base condition tidal heights or phasing, as

shown in Plates 4-9. Data presented in these plates show that all plan test results were well within the limits of accuracy of repeating identical model tests.

Current Observations

41. Hourly current velocity measurements resulting from tests conducted with plans 1, 3, 4B, and 5B installed in the model are shown in Plates 10-76. Results of flow predominance calculations are shown in Table 2 and in Figures 4-9. Surface current patterns for base and plan conditions are shown in Photos 1-25.

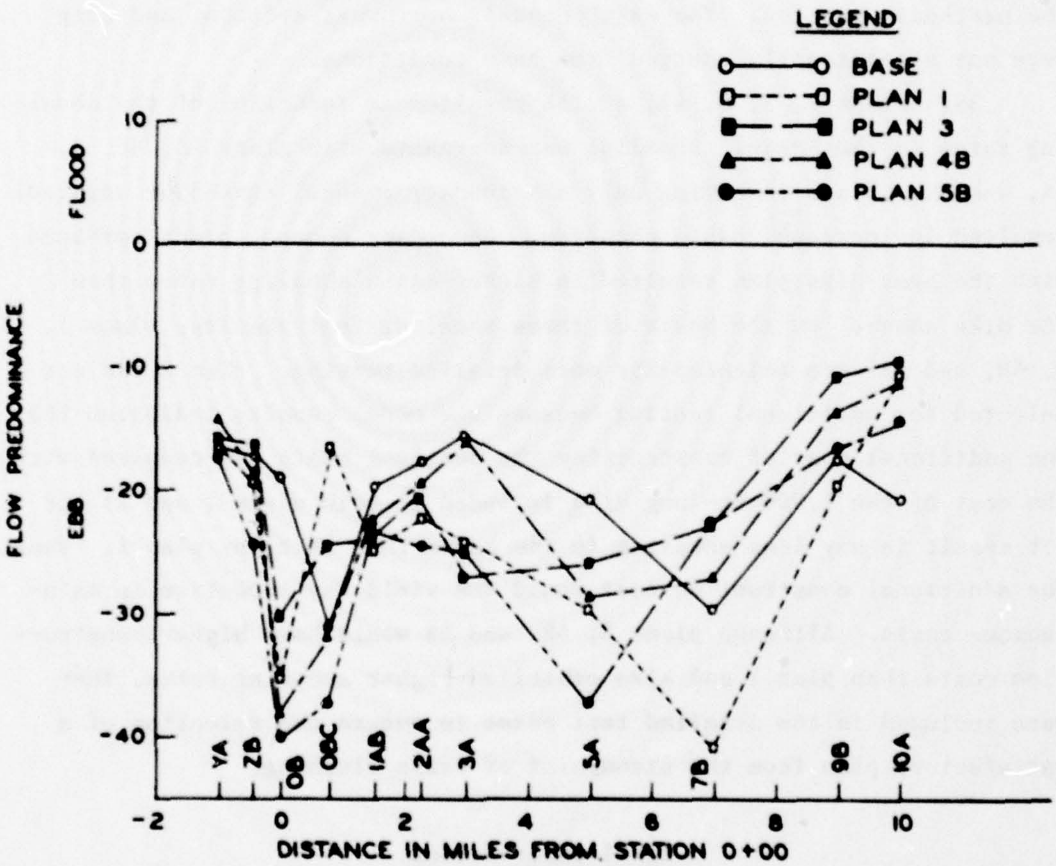

Figure 4. Surface flow predominance, channel center-line stations

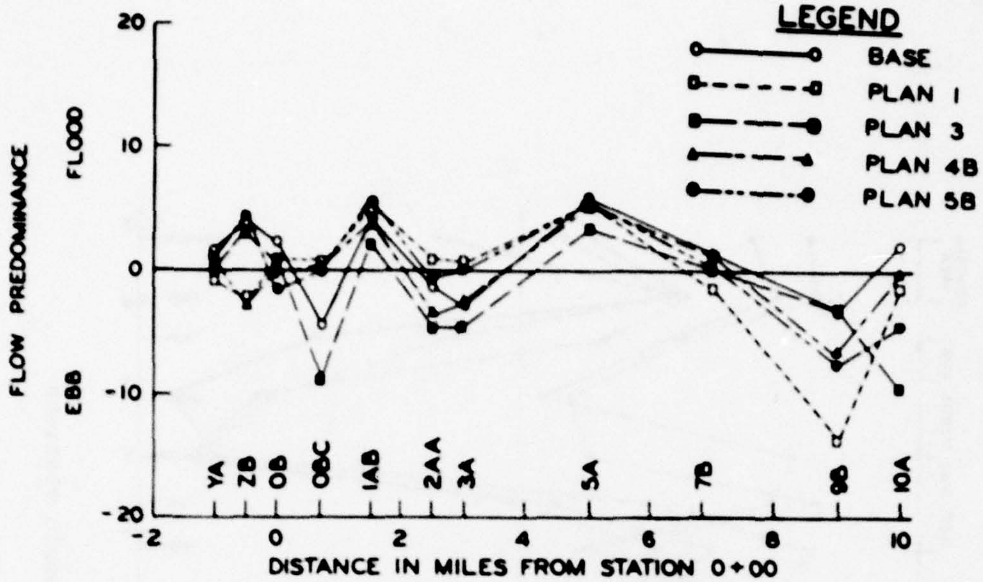

Figure 5. Middepth flow predominance, channel center-line stations

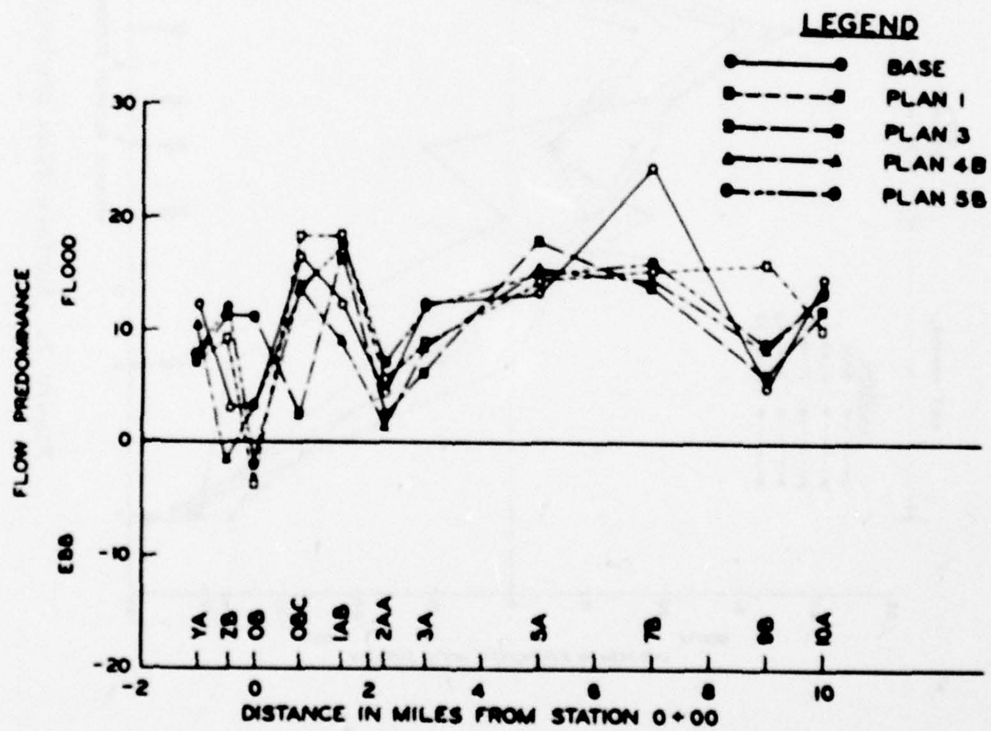

Figure 6. Bottom flow predominance, channel center-line stations

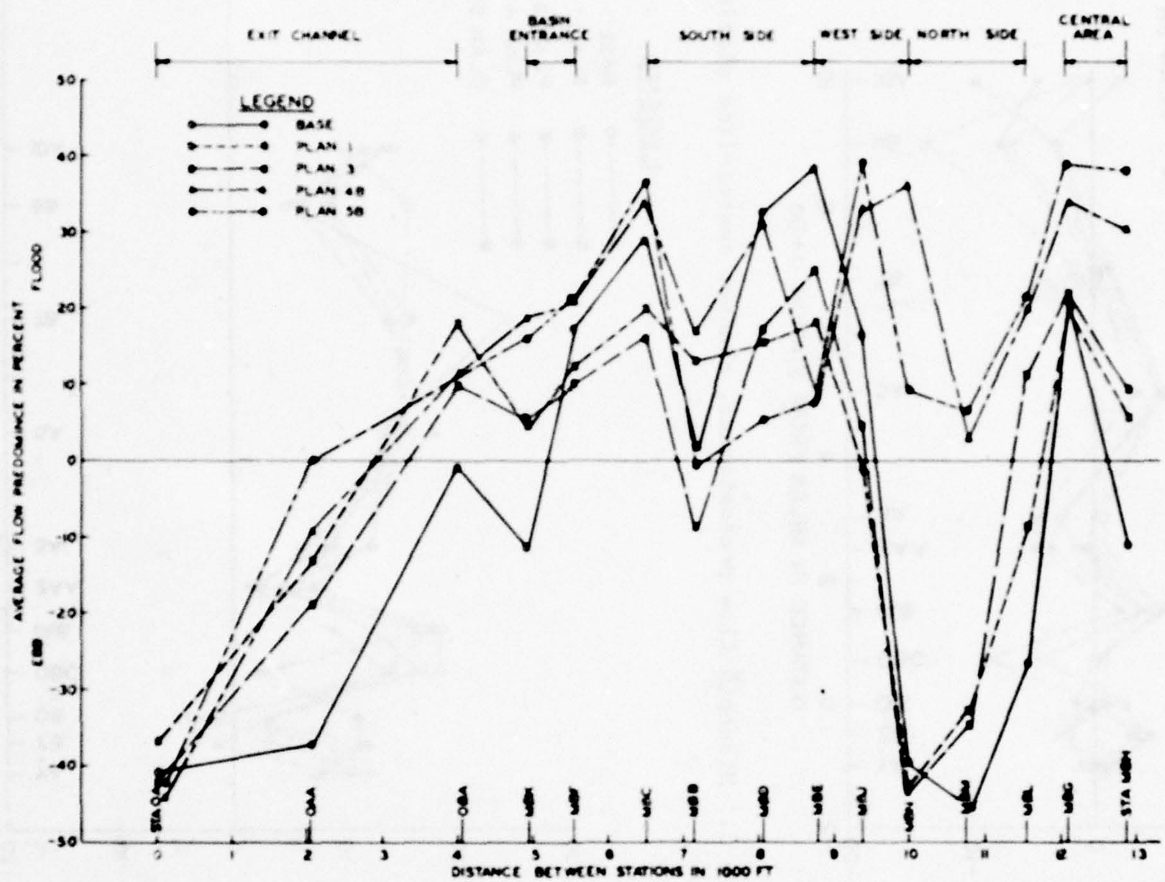

Figure 7. Surface flow predominance, basin stations

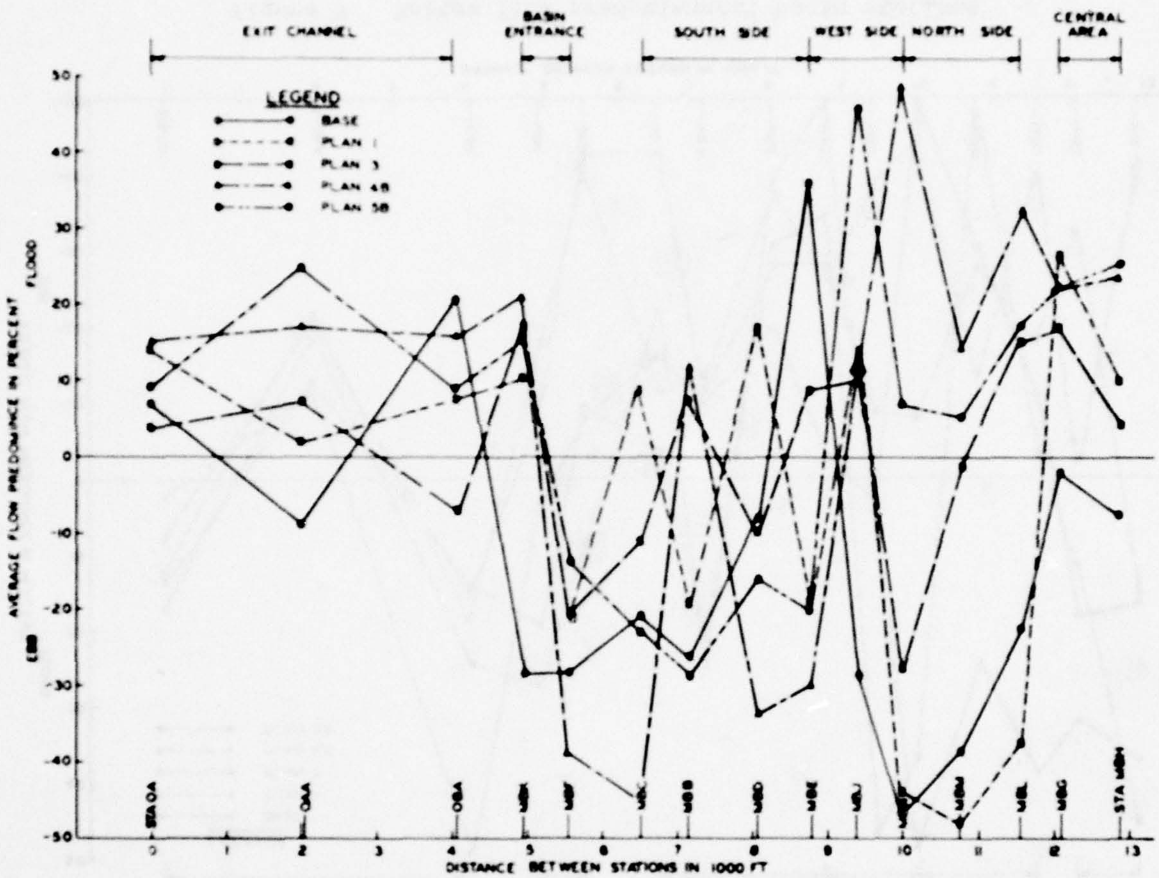

Figure 8. Middepth flow predominance, basin stations

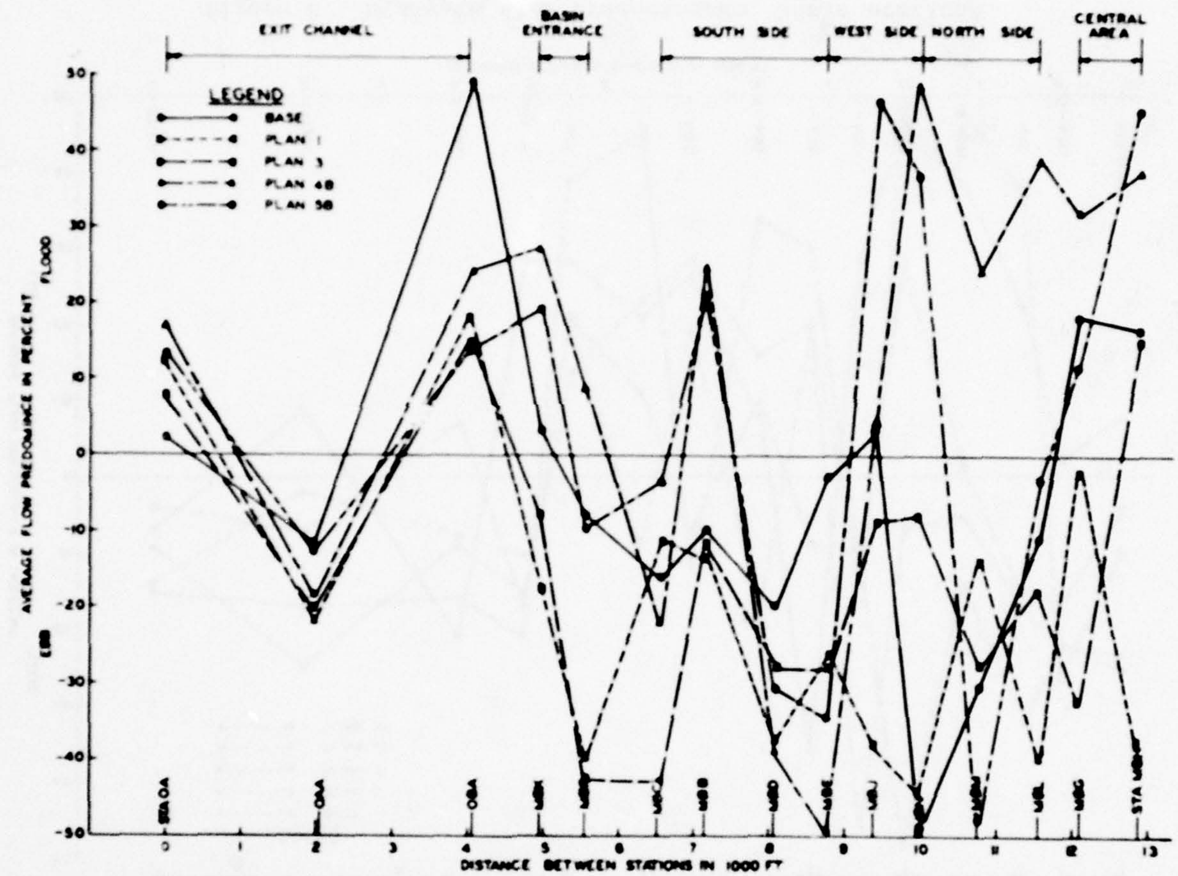

Figure 9. Bottom flow predominance, basin stations

42. None of the four plans resulted in any significant changes in maximum currents measured along the navigation channel except in the immediate vicinity of the plans (sta OB, OBB, OBC, 1AA, 1AB, and 1AC). Likewise, no significant changes were observed in time of slack waters or flow predominance in the channel other than in the immediate vicinity of the plans. The greatest effects on maximum currents in the navigation channel occurred during ebb flows and were observed at sta OB (Plates 15 and 48) and OBC (Plates 19 and 52), located on the center line of the navigation channel opposite the plans. Effects were the greatest at sta OB. Plan 1 resulted in the greatest change at sta OB, with increases in maximum ebb currents of 1.3, 1.6, and 2.0 fps, surface, middepth, and bottom, respectively. Plan 1 caused maximum surface currents at sta OB to increase from 2.8 (base) to 4.1 fps, while maximum middepth currents increased from a base condition value of 2.3 to 3.9 fps. Bottom depth maximum currents increased from 1.7 to 3.7 fps. Plan 1 caused a slight increase in flood currents at this location, but not to the degree observed during ebb flows. The greatest effect with plan 5B was likewise observed at sta OB, surface depth, at which point the maximum ebb current was increased from 2.8 to 4.6 fps. Range 1A was adjacent to the river end of the secondary opening of plans 4B and 5B, and surface flood velocities were increased at the closest station (sta 1AA, Plate 53) by about 1.0 fps but decreased in the center of the channel (sta 1AB, Plate 54) and on the opposite side of the river (sta 1AC, Plate 55) by about 1.0 fps. Plans 3, 4B, and 5B resulted in increased maximum ebb currents in the navigation channel adjacent to the basin on the order of 0.5 to 1.5 fps. Small changes were observed at other channel stations but were generally within the limits of accuracy of repeating identical tests.

43. Flow predominance values shown in profile form for stations located along the navigation channel center line are shown in Figures 4-6. There were no reversals of predominant flow direction except when base and plan values were within the range of ± 5 percent. Since this range is essentially balanced flow, the changes in direction are insignificant. A relatively large increase in surface ebb predominance

(10 to 20 percent) was noted at each of the channel stations located near the mouth of the basin exit channel and proposed dikes (sta 2B, OB, and OBC). Several rather large increases (10 to 15 percent) in surface ebb predominance can be seen at sta 3A, 5A, and 7A (Figure 4). In general, the plans have minimal influence on flow predominance in the navigation channel.

44. Hourly current velocity measurements collected within the basin (sta MBA-MBN) with plans 1 and 3 (see Figures 2a and 2c for locations) installed are shown in Plates 30-42, while plans 4B and 5B (see Figure 2f for locations) hourly velocity data for the same stations are shown in Plates 63-76. Current velocities at locations within the basin were too low to measure using the current meter, therefore velocity magnitude had to be determined with floats and dye, as described in Report 1. Velocity measurements in the basin exit channel (sta OA, OAA, and OBA) are presented in Plates 14, 16, and 17 for plans 1 and 3 and in Plates 47, 49, and 50 for plans 4B and 5B.

45. Except at the surface of sta OAA and flood velocities at sta OBA for plans 4B and 5B, velocity changes in the exit channel were rather small for all four plans. Maximum ebb and flood velocities generally were changed on the order of ± 0.5 fps or less. At sta OAA (Plates 16 and 49), however, the surface current phasing was completely reversed and the maximum surface ebb velocity was reduced by about 1 to 2 fps. This station was located immediately adjacent to the downstream end of the proposed dike. During the base test, surface flow at sta OAA was dominated by main channel flow; however, in the plan tests, the station was protected from main channel flow by the dike and was dominated by flow to and from the basin. Examination of velocity measurements at sta OBA (Plates 17 and 50) indicates that the surface and bottom waters for both base and plan are out of phase. During the early phase of the rising tide (hours 2 to 6), the basin is being filled from the surface of the exit channel; whereas during the final phase of the rising tide (hours 6 to 8), the basin fills from the bottom. During the falling tide, the basin empties from the surface but continues to be fed water from the bottom of the exit channel; thus, suspended sediments can be

transported into the basin throughout the entire tidal cycle. Maximum flood velocities at sta OBA were increased by 0.5 to 1.0 fps for plans 4B and 5B.

46. Neither plan 1 nor 3 resulted in any significant increases in maximum current velocities at stations located within the basin, as in each case, base and plans, no velocities were measured in excess of 1.5 fps. The maximum velocity of 1.5 fps was observed at sta MBF (Plate 35) at the surface depth with base conditions during a flooding tide. Plans 1 and 3 maximum velocities at this location and time were 1.4 and 1.2 fps, respectively. Maximum ebb currents in the basin were generally much less than maximum flood currents. In general, maximum velocities were about 0.5 to 0.8 fps for plans 1 and 3 and the base test.

47. Plans 4B and 5B (plans with a gate in the secondary channel open only during flood tide, hours 4.5 to 10.25) had a greater effect than either plans 1 or 3 on maximum current velocities inside the basin. Maximum effects on maximum currents were observed during flooding conditions at four stations: MBF, MBK, and MBL (Plates 68, 72, and 73), each located in or near the basin entrance, and at sta MBM (Plate 74), located alongside the carrier docking area. Maximum ebb currents at the above stations were in almost all cases slightly lower than those observed during base conditions. Maximum flood currents observed at the four stations discussed above with plans 4B and 5B installed are shown in the following tabulation.

	Velocity, fps								
	Base			Plan 4B			Plan 5B		
Station	Surface	Middepth	Bottom	Surface	Middepth	Bottom	Surface	Middepth	Bottom
MBF	1.5	0.5	0.5	1.8	0.4	1.2	1.3	0.7	1.3
MBK	0.8	0.3	1.2	1.8	1.3	1.6	1.2	1.8	1.2
MBL	0.7	0.3	0.5	2.0	1.4	1.3	1.3	0.7	0.9
MBM	0.2	0.2	0.6	1.2	1.2	0.9	0.9	0.6	0.0

The greatest current velocity (2.0 fps) anywhere in the basin was observed at sta MBL, surface depth, with plan 4B installed; however,

maximum surface flood currents at the other three locations shown above with plan 4B installed were very close to the maximum velocity observed at sta MBL. Essentially, all middepth and, to a lesser extent, bottom maximum currents at these four stations were increased as a result of both plans 4B and 5B. These increases, generally less than those for surface currents, probably are significant enough to adversely influence berthing requirements in the area.

48. Changes in maximum currents at other locations were generally very small. The only other station that was affected to any significant degree was sta MBN (Plate 75), located near the secondary opening. Maximum flood currents at this location were increased about 0.5 to 0.8 fps, whereas ebb currents were essentially unchanged.

49. Maximum currents measured at sta MBP (located in secondary opening, see Figure 2f for location and Plate 76 for data) were generally about 2.4 to 2.7 fps at each depth for plans 4B and 5B. These were flood currents only, as the openings were closed during ebb flow. These velocities are sufficient to cause some scouring; therefore the bed of the secondary channel might have to be protected by some means. Effects of the opening on navigation conditions in the channel with either plan would be insignificant as indicated by the surface current patterns shown in Photos 16-25.

50. Flow predominance calculations for stations located in the basin and exit channel are shown in Table 2 and in Figures 7-9. It should be emphasized at this point that due to varying flow direction in the basin in combination with the very low velocities and method of data collection (floats and dye), the degree of accuracy for current velocity measurements in the basin is not as good as in the main channel. In order to show flow predominance in profile form for the exit channel and basin stations, a pattern or route was established. The starting point was at sta OA, located in the exit channel, and continued into the basin in a clockwise direction. Neither sta MBA (in the slip) nor sta MBP (in the secondary opening of plans 4B and 5B) is included in these figures. Interpolation between points shown in Figures 7-9 only should be done considering the location of each station.

51. Table 2 and Figures 7, 8, and 9 present flow predominance for the surface, middepth, and bottom, respectively, and show that each of the four plans resulted in changes to existing flow predominance in the basin itself and in the exit channel. Analysis of these data shows considerable differences in effect of the plans from surface to bottom. Trends can be observed if the data are separated or grouped to show effects in individual areas of the basin.

52. In general, the two plans consisting only of training dikes (plans 1 and 3) exhibited similar changes to surface, middepth, and bottom flow predominances. In the exit channel to the basin, minimal changes resulted at the outer end (sta OA). A significant reduction in ebb predominance at the surface, a change from slight ebb to slight flood predominance at middepth, and a slight increase in ebb predominance were measured in the midportion (sta OAA). A change from balanced flow to flood predominance at the surface, reduction of flood to slight flood for plan 1 and slight ebb predominance for plan 3 at middepth, and marked reduction from essentially total flood to moderate flood predominance at the bottom for the interior portion (sta OBA) occurred. These changes at the mouth of the basin (sta OBA), combined with the minimal changes in maximum velocities (Plate 17) that were observed, would have the effect of a moderate increase in inward transport at the surface, a reduced moderate inward transport for plan 1 and change to slight outward transport for plan 3 in the middepth, and a marked decrease in inward transport on the bottom. Although consideration must be given to the phase difference in velocity at the various depths and the settling velocity of the material, the general trend should result in an overall reduction in material brought to the entrance to the basin for plans 1 and 3.

53. Immediately inside the basin, a change from moderate ebb to slight flood predominance on the north side (sta MBK) and a minimal reduction of the moderate flood predominance on the south side (sta MBF) at the surface were observed. Change from strong ebb to moderate flood predominance on the north side and a slight decrease in strong ebb predominance on the south side were measured at middepth. A marked change

from slight flood on the north side and slight ebb on the south side to strong ebb predominance occurred at the bottom. These changes combined with the observed changes in maximum velocities should result in minimal changes to net flood transport at the surface, significant reduction of ebb transport at middepth, and marked increase to strong ebb transport at the bottom immediately inside the entrance to the basin. The overall change should be a reduction of material brought into the basin with a considerable improvement in flushing near the bottom for plans 1 and 3.

54. Inside the basin in the southern portion (sta MBC, MBB, MBD, and MBE), essentially all locations showed a decrease in the flood predominance presently existing at the surface. At middepth, a reduction in ebb predominance or change to flood predominance occurred from the generally ebb predominance presently existing. The one exception is in the southwest corner (sta MBE) where an existing flood predominance is changed to slight flood and moderate ebb predominance for plans 3 and 1, respectively. Near the bottom, both plans result in an increase in the ebb predominance presently existing. Conclusions for the southern portion are difficult to reach.

55. In the northern portion (sta MBN, MBM, and MBL), existing strong ebb predominance was generally reduced minimally by plans 1 and 3.

56. In the central portion (sta MBG, MBH, and MBJ), relatively minimum changes to flood predominance at the surface, changes from slight or strong ebb predominance to moderate flood predominance at middepth, and generally changes from moderate or slight flood to moderate or strong ebb predominance at the bottom occurred.

57. As shown for plans 1 and 3, plans 4B and 5B (with a secondary opening into the basin) exhibited similar results. In general, the results are most similar for all four plans tested in the exit channel and become progressively dissimilar nearer the location of the secondary opening.

58. In the exit channel, surface and bottom flow predominances were similar for all plans. At middepth, plans 4B and 5B tended to develop a stronger flood predominance than plans 1 and 3. In general,

conclusions applicable to plans 1 and 3 are applicable to plans 4B and 5B; however, because of the higher flood velocities associated with plans 4B and 5B as compared with plans 1 and 3 particularly at the basin end of the channel (Plates 17 and 50), plans 4B and 5B should cause a higher transport of material to the basin.

59. Immediately inside the basin, the surface predominance changes from slight ebb to moderate flood on the north side (sta MBK) and changes minimally from the moderate flood on the south side (sta MBF). At middepth, the north side changes from strong ebb to moderate flood predominance and the predominance increases and decreases from the strong ebb on the south side for plans 4B and 5B, respectively. The predominance changes for the bottom are an increase from slight flood to strong flood on the north side, and on the south side no change from the slight ebb for plan 5B and change to moderate flood for plan 4B. In general, the flow predominance results would indicate an increase in the material transported to the basin when compared with existing conditions.

60. The flow predominance for the southern portion of the basin (sta MBC, MBB, MBD, and MBE) is relatively complex; however, the general trend is for plans 4B and 5B to develop more of a surface flood predominance trend than plans 1 and 3. At middepth, plans 4B and 5B caused stronger ebb predominance than plans 1 and 3 while on the bottom no general trend is evident. The comparison with existing conditions is not nearly as clear.

61. At most locations in the central and northern portion of the basin (sta MBN, MBM, MBL, MBG, MBH, and MBJ), surface, middepth, and bottom clearly were changed to flood-predominant when compared with plans 1 and 3 and particularly existing conditions. The only exceptions were on the bottom for plan 4B where sta MBM was changed to essentially all ebb flow and sta MBL was changed to essentially balanced flow. Plans 4B and 5B resulted in marked increases in flood velocities through the area and out through the secondary opening. Conclusions on material transport through the area are dependent strongly on the amount of material in suspension during the flood phase; however, the results of the

flow predominance computations indicate a significant transport of material out of the basin in this area.

62. The following tabulation summarizes the effects of the plans on average flow predominance in the basin. The values shown were obtained by averaging results at 12 locations within the basin. Sta MBA, located in the extreme end of the slip, was excluded.

Average Flow Predominance

Depth	Base	Plan 1	Plan 3	Plan 4B	Plan 5B
Surface	+2.0	+2.3	+2.9	+24.2	+20.3
Middepth	-18.1	-8.0	+1.1	+3.5	+3.7
Bottom	-8.6	-27.0	-19.8	+9.8	+4.5
Average	-8.2	-10.9	-5.3	+12.5	+9.5

NOTE: Minus sign (-) denotes ebb predominance; plus sign (+) denotes flood predominance.

63. Based on the results of velocity measurements and flow predominance calculation, plans 1 and 3 appear to reduce the potential for shoaling in the basin due to an apparent reduction in potential for introduction of material to the basin at the entrance. The results of plans 4B and 5B are not nearly as conclusive. The potential to increase materials introduced to the basin exists; however, the transport of material out of the basin via the secondary opening could more than offset this increase. The velocity data, flow predominance data, and dye results combined with additional information on the characteristics of the material not presently available could provide a basis for a much more rigorous analysis of the shoaling of the basin. Such an analysis is beyond the scope of this investigation.

Salinities

64. The effects of plans 1 and 3, 4B and 5B on hourly salinity concentrations at locations throughout the model over a complete tidal cycle are shown in Plates 77-122, and 123-169, respectively. Plan

effects on salinity values averaged over a tidal cycle are shown in Table 3 and in Figures 10 and 11.

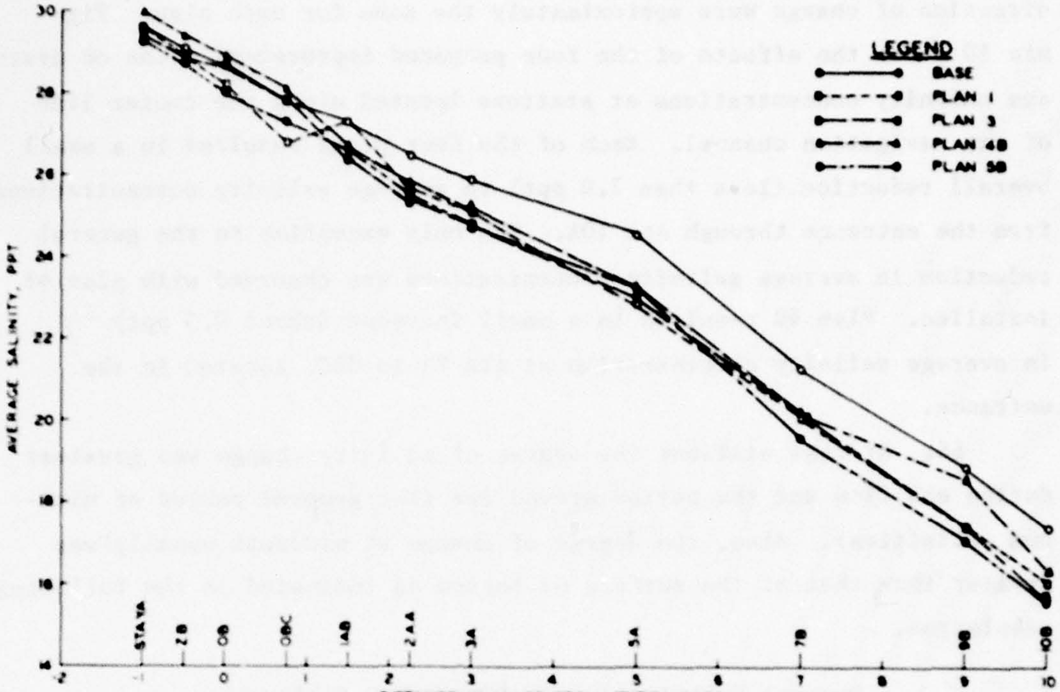

Figure 10. Average salinity profile, navigation channel center-line stations

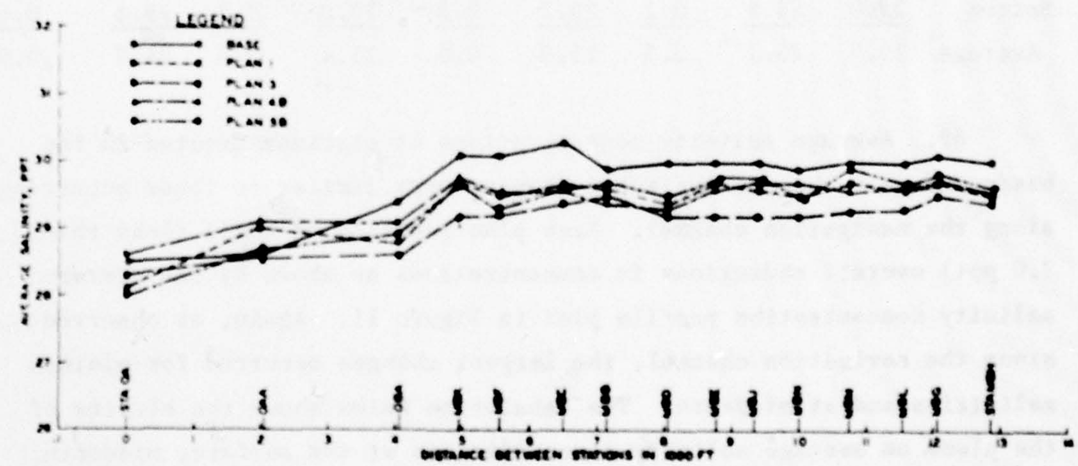

Figure 11. Average salinity profile, Mayport Basin

65. Effects of all proposed improvement plans on base condition salinities were very similar, as changes in salinity concentration and direction of change were approximately the same for each plan. Figure 10 shows the effects of the four proposed improvement plans on average salinity concentrations at stations located along the center line of the navigation channel. Each of the four plans resulted in a small overall reduction (less than 2.0 ppt) to average salinity concentrations from the entrance through sta 10A. The only exception to the general reduction in average salinity concentrations was observed with plan 4B installed. Plan 4B resulted in a small increase (about 0.3 ppt) in average salinity concentration at sta YA to OBC, located in the entrance.

66. At most stations the degree of salinity change was greatest during ebb flow and the period around lws (the general period of minimum salinities). Also, the degree of change at middepth usually was greater than that at the surface or bottom as indicated in the following tabulation.

Average Salinities, ppt (Channel ℄ Stations)

Depth	Base	Plan 1	Diff	Plan 3	Diff	Plan 4B	Diff	Plan 5B	Diff
Surface	21.1	20.6	0.5	21.0	0.1	21.0	0.1	19.9	1.2
Middepth	26.8	25.9	0.9	25.7	1.1	26.3	0.5	25.5	1.3
Bottom	29.0	28.8	0.2	28.2	0.8	28.8	0.2	28.6	0.4
Average	25.6	25.1	0.5	25.0	0.6	25.4	0.2	24.7	0.9

67. Average salinity concentrations at stations located in the basin and exit channel reflected changes very similar to those occurring along the navigation channel. Each plan resulted in small (less than 2.0 ppt) overall reductions in concentrations as shown by the average salinity concentration profile plot in Figure 11. Again, as observed along the navigation channel, the largest changes occurred for minimum salinities and at middepth. The tabulation below shows the effects of the plans on average salinity concentrations at the surface, middepth, and bottom for stations located within the basin.

Average Salinity, ppt (Basin Stations)					
Depth	Base	Plan 1	Plan 3	Plan 4B	Plan 5B
Surface	24.5	24.3	23.7	24.0	24.7
Middepth	31.0	30.5	30.5	30.6	30.2
Bottom	32.4	32.2	31.9	32.3	32.1
Average	29.3	29.0	28.7	29.0	29.0

68. The effects of the plans on average salinities are generally less than 1.0 ppt, and many results are within or reasonably close to the limits of accuracy in repeating identical tests of this type. The influences of the plans on salinities are small, but the model observations consistently show that all of the plans would reduce average salinity by 0.5 to 2.0 ppt throughout at least the lower 10 miles of the estuary, including the Mayport Basin.

Dye

69. The effects of plans 1 and 3 on hws and lws dye samples at locations throughout the basin and estuary over the entire 16-cycle test period are shown in Plates 170-201 and 202-233, respectively. Similar data collected with improvement plans 4B and 5B installed in the model are shown in Plates 234-266 and 267-299 for hws and lws periods, respectively. Dye data used to prepare the above plates are also shown in tabular form in Tables 4 and 5, hws and lws samples, respectively.

70. Although all data obtained during the dye tests are presented in the figures and tables, data obtained at tidal cycle 6 and later are not considered valid. In the course of conducting the test, dye is introduced into the ocean during ebb flow. Portions of this dye reach the sump by the second tidal cycle through the mixing weirs skimming water from the surface of the ocean. Inspection of the results and observations of the model indicate that this dye was not reintroduced into the study area until approximately the sixth tidal cycle.

71. In addition, the plume of dyed water that was introduced into the ocean during the initial ebb flow circulates in the ocean in a counterclockwise pattern and is reintroduced into the entrance of the

river during tidal cycle 6. Both of the occurrences result in conditions that are not considered to be representative of what would occur in the prototype.

72. Results of the dye test during the first five tidal cycles were evaluated in several ways. Comparisons were made of the base and plan results in the main navigation channel as well as within the basin. None of these comparisons resulted in any definite trends with one exception. The data within the basin were averaged for all stations at each tidal cycle; results are presented in Table 6 and Figures 12-15. In comparing the data prism with the sixth tidal cycle, none of the data for plans 1 and 3 show any improvement in flushing; the data for plans 4B and 5B do show an improvement in flushing. The greatest improvement in flushing occurs for data taken near the bottom. Dye concentrations for the fifth tidal cycle at hws are reduced from 62 ppb to 12 ppb for plan 4B and to 34 ppb for plan 5B. At lws reductions are from 76 ppb to 13 ppb for plan 4B and to 45 ppb for plan 5B. Lesser reduction occurred at shallower depths with no reduction occurring near the surface for hws data and small reductions for the lws quarterdepth and middepth.

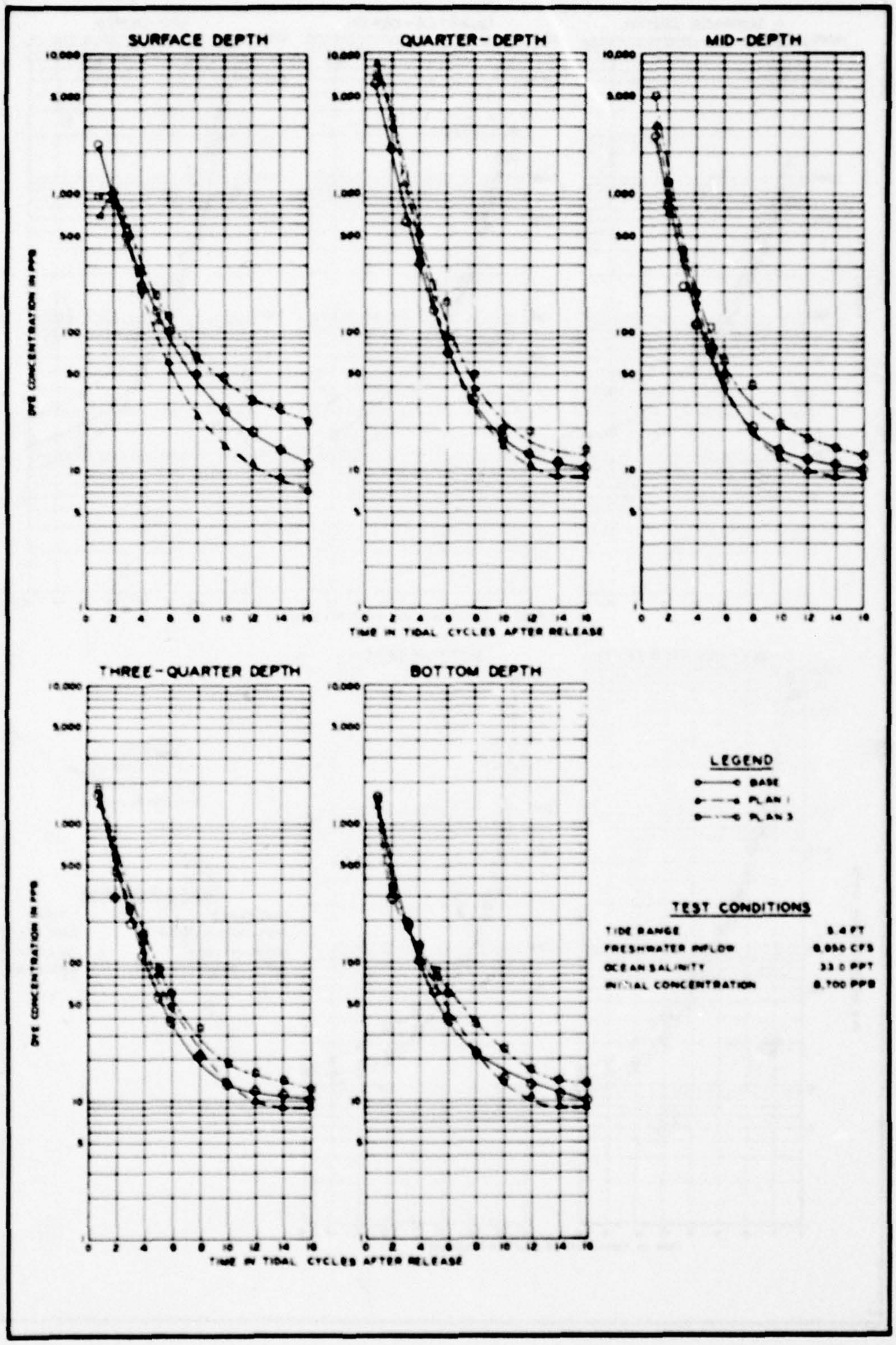

Figure 12. Effects of plans 1 and 3 on average high-water slack dye concentrations, basin stations

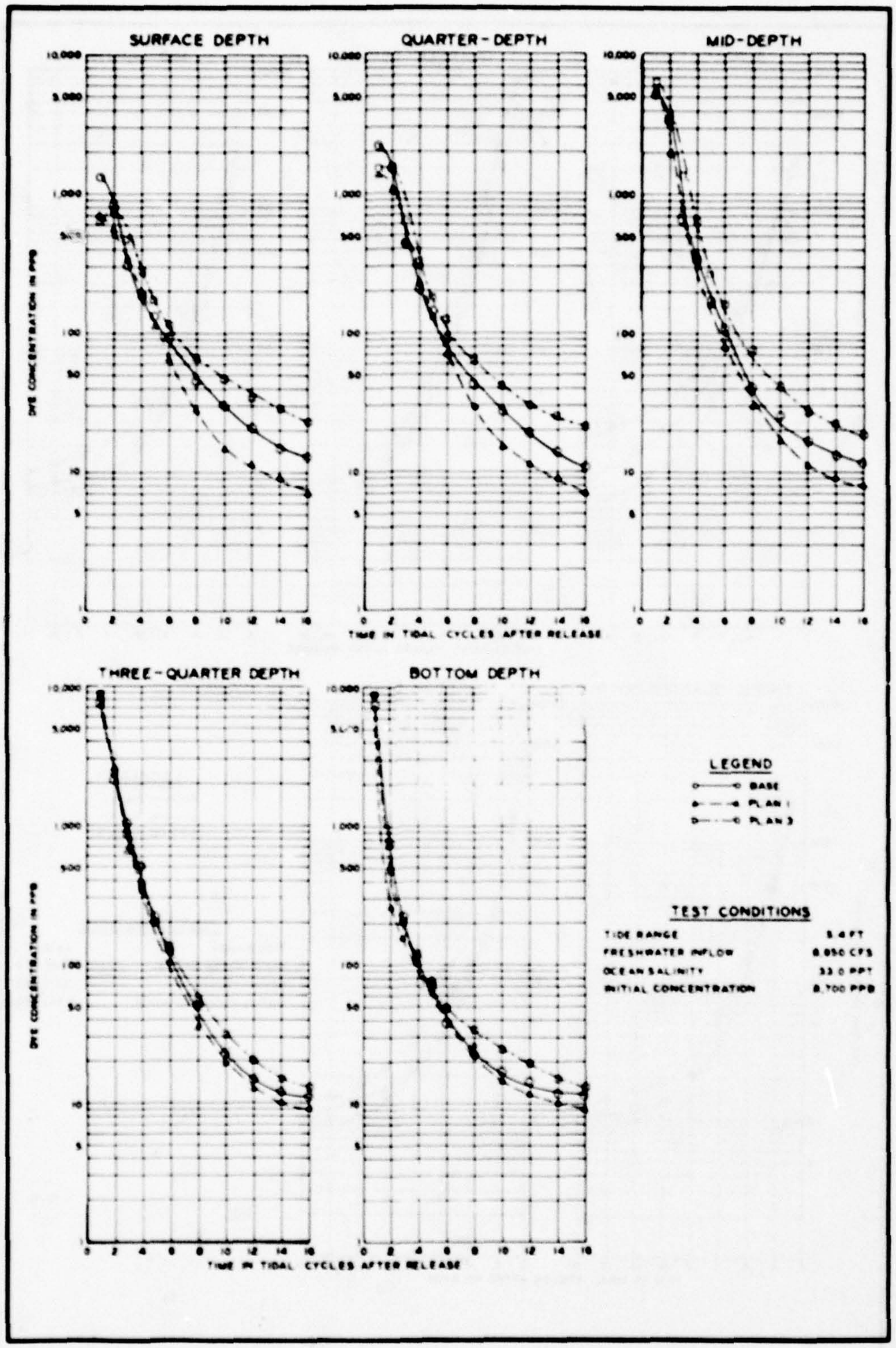

Figure 13. Effects of plans 1 and 3 on average low-water slack dye concentrations, basin stations

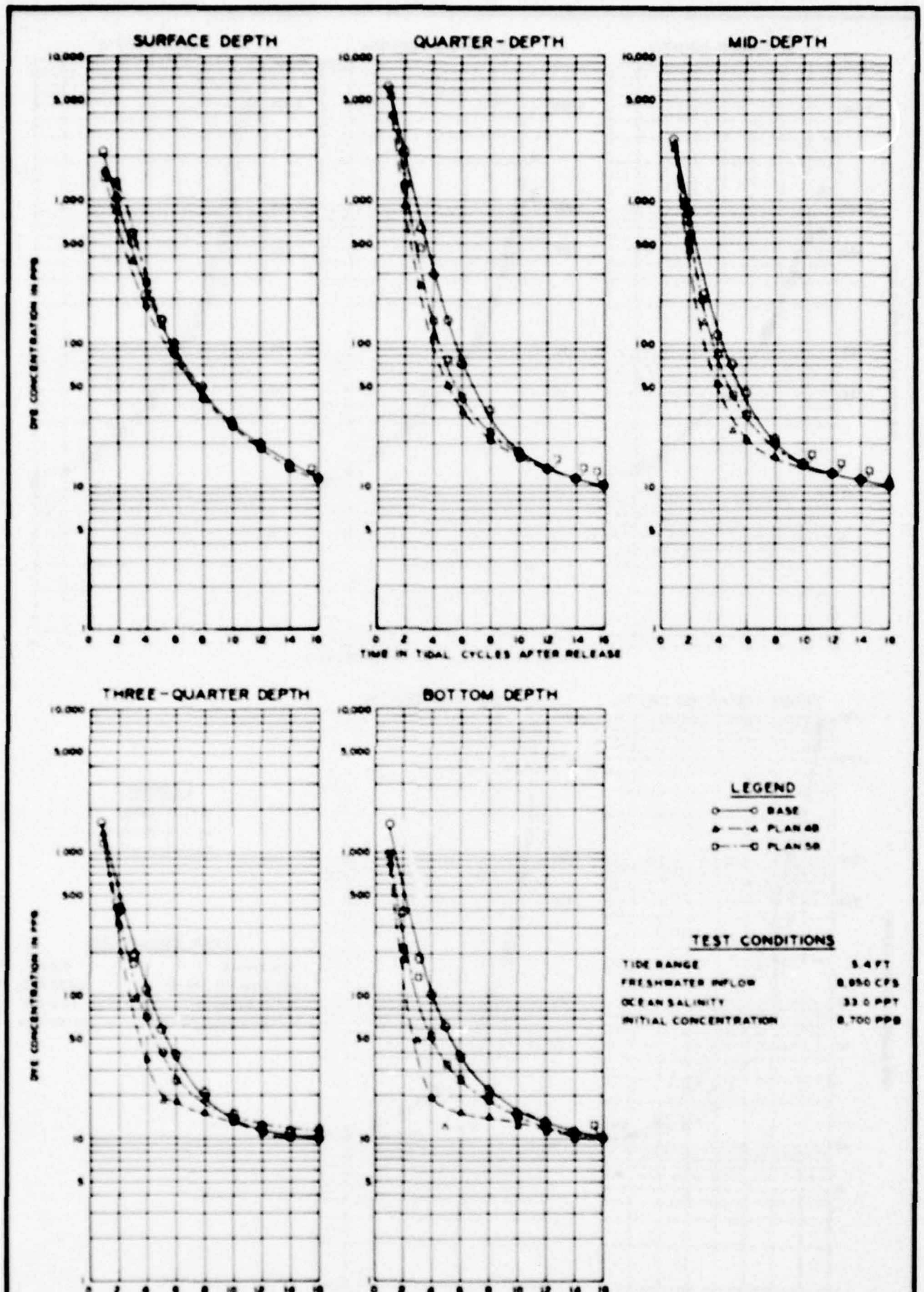

Figure 14. Effects of plans 4B and 5B on average high-water slack dye concentrations, basin stations

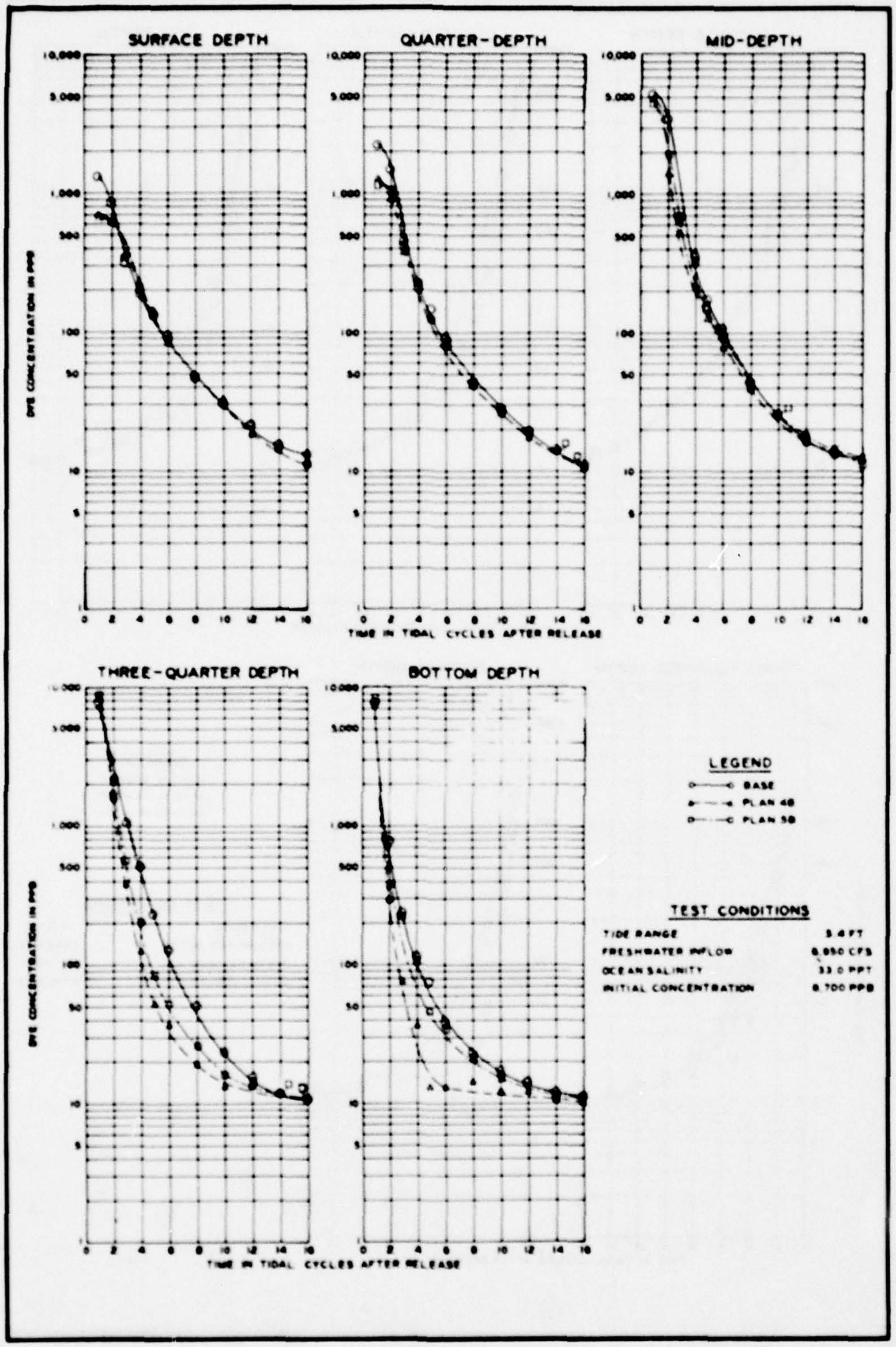

Figure 15. Effects of plans 4B and 5B on average low-water slack dye concentrations, basin stations

PART IV: CONCLUSIONS AND RECOMMENDATIONS

Conclusions

73. On the basis of model shoaling test results, 4 of the 11 plans tested to determine effects on basin shoaling were selected for detailed testing to determine their effect on hydraulics, salinity, and dye flushing in the basin area. Those plans selected were: plan 1, approximately 1900-ft extension of Wards Bank training wall; plan 3, enclosed area with dikes parallel to exit channel and navigation channel; plan 4B, gated opening 200 ft by 42 ft in combination with plan 1; and plan 5B, gated opening 200 ft by 21 ft in combination with plan 1.

74. On the basis of model test results discussed in previous paragraphs in this report, it is concluded that none of the four plans investigated extensively would have any effect on existing tidal heights, tide range, or phase through the estuary. Effects on current velocities or patterns and flow predominance throughout the estuary other than in the basin and immediate vicinity of the basin were generally very small. Each of the four plans resulted in a decrease in average salinity of 0.5 to 2.0 ppt along the navigation channel. Shoaling in the navigation channel was not affected by any of the plans.

75. Although effects in the main estuary and navigation channel were generally small and insignificant, there were considerable effects in the basin and immediate surrounding area. In respect to maximum current velocities within the basin, plans 1 and 3 had the least effect and would not result in causing berthing problems for the carriers. Plan 4B had the greatest effect on maximum current velocities, resulting in flood current in the area of the carrier berth of about 2.0 fps, which could cause berthing problems should a carrier approach this area during this phase of the tide. Maximum current velocities in the navigation channel were increased with each of the four plans but should present no problem to navigation.

76. Results of the flow predominance indicate that plans 1 and 3 should result in an overall reduction of material transported to

the entrance of the basin. Plans 4B and 5B should also result in an overall reduction of material transported to the entrance of the basin; however, because of higher flood velocities, the reduction should be less than that for plans 1 and 3.

77. Immediately inside the basin, flow predominance changes for plans 1 and 3 indicate a reduction of material transported into the basin. Results for plans 4B and 5B indicate an increase in material transport into the basin.

78. Within the basin, flow predominance changes occurred. The most significant change occurred for plans 4B and 5B near the secondary opening. Results indicate that material in suspension in the area will be transported out of the basin.

79. Based on the results of velocity measurements and flow predominance calculation, plans 1 and 3 appear to reduce the potential for shoaling in the basin due to an apparent reduction in potential for introduction of material to the basin at the entrance. Results of plans 4B and 5B are not nearly as conclusive. The potential to increase materials introduced to the basin exists; however, the transport of material out of the basin via the secondary opening could more than offset this increase.

80. Average salinity concentrations in the navigation channel, exit channel, and basin were generally slightly lower than the base for each of the four plans investigated. There was no indication that one plan resulted in more or less change than another, as a very large percentage of the data was within the limits of accuracy of repeating identical model tests, particularly within the basin.

81. Results of the dye tests do not indicate any significant improvement of flushing for plans 1 and 3. Results for plans 4B and 5B indicate a significant improvement in overall flushing within the basin near the bottom. Lesser reductions were observed at shallower depths with essentially no change near the surface.

82. Plans 1, 2, and 3 each proved to be very effective in reducing overall shoaling rates in the exit channel and basin. All plans involving the ungated secondary opening (plans 4, 4A, 4C, 5, 5A, and 5C)

resulted in increased shoaling in the basin. Plans involving gated secondary openings (4B and 5B) reduced the overall shoaling rate but not to the degree of plans 1, 2, and 3.

Recommendations

83. On the basis of model tests described herein, it is recommended that plan 1 be installed in the prototype. Plan 1 was the best plan with respect to shoaling reduction, which is the primary objective of the study.

Table 1

Effects of Plans on Channel and Basin Shoaling

Section	Base 1* Vol Recov cc	Base 1* Shoaling Index	Plan 1* Vol Recov cc	Plan 1* Shoaling Index	Plan 2* Vol Recov cc	Plan 2* Shoaling Index	Plan 3* Vol Recov cc	Plan 3* Shoaling Index	Base 2** Vol Recov cc	Base 2** Shoaling Index	Plan 4** Vol Recov cc	Plan 4** Shoaling Index	Plan 4A** Vol Recov cc	Plan 4A** Shoaling Index	Plan 4B** Vol Recov cc	Plan 4B** Shoaling Index	Plan 4C** Vol Recov cc	Plan 4C** Shoaling Index	Plan 5** Vol Recov cc	Plan 5** Shoaling Index	Plan 5A** Vol Recov cc	Plan 5A** Shoaling Index	Plan 5B** Vol Recov cc	Plan 5B** Shoaling Index	Plan 5C** Vol Recov cc	Plan 5C** Shoaling Index
Mayport Basin†																										
TB1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TB2	10	0.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	8	0.3	5	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TB3	20	0.8	50	1.9	55	2.1	45	1.7	0	0.0	10	0.4	137	5.7	100	4.2	125	5.2	10	0.4	115	4.7	140	5.8	110	4.6
TB4	167	6.3	135	5.1	235	8.9	147	5.6	180	7.5	30	1.3	208	8.6	160	6.6	250	10.3	260	10.8	210	8.7	240	9.9	230	9.5
TB5	415	15.8	275	10.5	250	9.5	365	13.9	525	21.7	360	14.9	335	13.9	300	12.4	340	14.1	500	20.7	328	13.6	290	12.0	290	12.0
NE	730	27.7	410	15.6	390	14.8	478	18.2	755	31.3	845	35.0	730	30.2	380	15.7	750	31.1	830	34.4	788	32.6	450	18.6	650	26.9
SE	528	20.1	245	9.3	210	8.0	262	9.9	450	18.6	735	30.4	730	30.2	395	16.4	860	35.6	470	19.5	550	22.8	260	10.8	520	21.5
SW	357	13.6	135	5.1	125	4.8	140	5.3	240	9.9	600	24.8	532	22.0	230	9.5	640	26.5	370	15.3	720	29.8	140	5.8	490	20.3
NW	275	10.4	105	4.0	100	3.8	97	3.7	180	7.5	515	21.3	390	16.2	200	8.3	410	17.0	460	19.0	570	23.6	170	7.0	450	18.6
SLIP	130	4.9	40	1.5	40	1.5	58	2.2	85	3.5	250	10.4	230	9.5	80	3.3	180	7.4	100	4.1	220	9.1	50	2.1	105	4.4
Total	2,632	100.0	1,395	53.0	1,405	53.4	1,592	60.5	2,415	100.0	3,345	138.5	3300	136.6	1850	76.6	3,555	147.2	3,000	124.2	3,501	144.9	1,740	72.0	2,845	117.8

Reach AA††

Section	Base 1		Plan 1		Plan 2		Plan 3		Plan 4		Plan 4A		Plan 4B		Plan 4C		Plan 5		Plan 5A		Plan 5B		Plan 5C	
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10	15	50.0	10	33.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	16.7	0	0.0	0	0.0
11	10	33.3	25	83.4	10	33.3	15	50.0	0	0.0	5	16.7	0	0.0	10	33.3	10	33.3	15	50.0	10	33.3	15	50.0
12	5	16.7	20	66.7	20	66.7	15	50.0	15	50.0	10	33.3	10	33.3	15	50.0	15	50.0	15	50.0	15	50.0	15	50.0
13	0	0.0	10	33.3	15	50.0	10	33.3	10	33.3	5	16.7	0	0.0	10	33.3	10	33.3	5	16.7	15	50.0	10	33.3
Total	30	100.0	65	216.7	45	150.0	40	133.3	25	83.3	20	66.7	10	33.3	35	116.6	35	116.6	40	133.4	40	133.3	40	133.3

Reach A††

Section	Base 1		Plan 1		Plan 2		Plan 3		Plan 4		Plan 4A		Plan 4B		Plan 4C		Plan 5		Plan 5A		Plan 5B		Plan 5C	
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	162	2.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	30	0.4	160	2.3	0	0.0	0	0.0	0	0.0
3	270	3.9	0	0.0	0	0.0	0	0.0	570	8.2	0	0.0	0	0.0	520	7.4	460	6.6	0	0.0	0	0.0	210	3.0
4	45	0.7	0	0.0	200	2.9	60	0.9	390	5.6	25	0.4	0	0.0	30	0.4	250	3.6	0	0.0	0	0.0	20	0.3
5	245	3.5	0	0.0	1,840	26.3	1,790	25.6	1,060	15.2	360	5.2	1,060	15.2	640	9.2	620	8.9	0	0.0	190	2.7	350	5.0
6	70	1.0	760	10.9	50	0.7	170	2.4	220	3.1	1075	15.4	710	10.2	360	5.2	50	0.7	835	12.0	1,240	17.8	720	10.3
7	205	2.9	270	3.9	430	6.2	290	4.2	100	1.4	455	6.5	120	1.7	900	12.9	190	2.7	365	5.2	170	2.4	720	10.3
8	500	7.2	260	3.7	20	0.3	155	2.2	0	0.0	30	0.4	30	0.4	20	0.3	120	1.7	85	1.2	0	0.0	15	0.2
9	488	7.0	215	3.1	370	5.3	210	3.0	10	0.1	15	0.2	10	0.1	10	0.1	30	0.4	30	0.4	0	0.0	20	0.3
10	535	7.7	1,440	20.6	1,080	15.4	1,480	21.2	1,920	27.5	245	3.5	1240	17.8	100	1.4	650	9.3	1,570	22.5	1,180	16.9	1,090	15.6

(Continued)

Note: Vol Recov = volume recovered.
Shoaling index is the total amount of material recovered for a plan test divided by the total amount of material recovered for the base test.
* Base test 1 (no ships) was used to calculate percent change for plans 1, 2, and 3.
** Base test 2 (with ships installed) was used to calculate percent change for plans 4, 4A, 4B, 4C, 5, 5A, 5B, and 5C (plans involving second opening).
† Shoaling material used for all basin tests was gilsonite with a specific gravity of 1.035.
†† All channel shoaling tests were conducted without ships installed in the basin. Shoaling material used was plastic with a specific gravity of 1.05.

Table 1 (Concluded)

Section	Base 1 Vol Recov cc	Base 1 Shoaling Index	Plan 1 Vol Recov cc	Plan 1 Shoaling Index	Plan 2 Vol Recov cc	Plan 2 Shoaling Index	Plan 3 Vol Recov cc	Plan 3 Shoaling Index	Plan 4 Vol Recov cc	Plan 4 Shoaling Index	Plan 4A Vol Recov cc	Plan 4A Shoaling Index
Reach A** (Continued)												
11	1,055	15.1	435	6.2	40	0.6	515	7.4	1,640	23.5	1,675	24.0
12	2,245	32.2	1,680	24.0	880	12.6	1,590	22.8	1,300	18.6	1,430	20.5
13	75	1.1	410	5.9	1,350	19.3	145	2.1	60	0.8	210	3.0
14	245	3.5	190	2.7	250	3.6	13	0.2	50	0.7	555	7.9
15	590	8.4	90	1.3	50	0.7	20	0.3	140	2.0	85	1.2
16	145	2.1	140	2.0	50	0.7	135	1.9	130	1.9	130	1.9
17	50	0.7	25	0.4	15	0.2	25	0.4	40	0.6	15	0.2
18	10	0.1	12	0.2	0	0.0	0	0.0	0	0.0	0	0.0
19	8	0.1	5	0.1	0	0.0	0	0.0	0	0.0	0	0.0
20	7	0.1	255	3.6	0	0.0	10	0.1	110	1.6	240	3.4
21	10	0.1	130	1.9	550	7.9	330	4.7	215	3.1	125	1.8
22	0	0.0	0	0.0	60	0.9	17	0.2	70	1.0	5	0.1
23	0	0.0	20	0.3	550	3.6	245	3.5	370	5.3	395	5.6
24	0	0.0	10	0.1	0	0.0	0	0.0	0	0.0	5	0.1
25	10	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
26	15	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	6,985	100.0	6,347	90.0	7,485	107.2	7,200	103.1	8,395	120.2	7,075	101.3
Reach B**												
27	35	0.3	12	0.1	0	0.0	0	0.0	0	0.0	0	0.0
28	610	5.8	13	0.1	10	0.1	10	0.1	620	5.9	280	2.7
29	490	4.7	820	7.8	1,120	10.6	845	8.0	895	8.5	900	8.5
30	25	0.2	130	1.2	290	2.7	575	5.5	120	1.1	125	1.2
31	15	0.1	300	2.9	120	1.1	415	3.9	410	3.9	200	1.9
32	2,615	24.8	2,170	20.6	2,760	26.2	2,000	19.0	2,310	21.9	2,540	24.1
33	1,215	11.6	1,160	11.0	1,020	9.7	1,400	13.3	1,160	11.0	775	7.4
34	790	7.5	140	1.3	690	6.6	40	0.4	415	3.9	60	0.6
35	630	6.0	920	8.7	1,240	11.8	1,510	14.3	2,290	21.8	1,910	18.1
36	1,405	13.4	2,070	19.7	1,430	13.6	1,760	16.7	980	9.3	1,245	11.8
37	2,045	19.4	1,700	16.2	1,630	15.5	1,865	17.7	1,050	10.0	1,220	11.6
38	655	6.2	750	7.1	850	8.1	680	6.5	450	4.3	515	4.9
Total	10,530	100.0	10,185	96.7	11,160	106.0	11,100	105.4	10,700	101.6	9,770	92.8

Section	Plan 4B Vol Recov cc	Plan 4B Shoaling Index	Plan 4C Vol Recov cc	Plan 4C Shoaling Index	Plan 5 Vol Recov cc	Plan 5 Shoaling Index	Plan 5A Vol Recov cc	Plan 5A Shoaling Index	Plan 5B Vol Recov cc	Plan 5B Shoaling Index	Plan 5C Vol Recov cc	Plan 5C Shoaling Index
Reach A** (Continued)												
11	760	10.9	2,130	30.5	1,800	25.8	425	6.1	560	8.0	520	7.4
12	1,320	18.9	1,460	20.9	1,710	24.5	2,330	33.4	2,570	36.8	2,240	32.1
13	70	1.0	340	4.9	280	4.0	80	1.2	30	0.4	25	0.3
14	260	3.7	100	1.4	100	1.4	50	0.7	40	0.6	90	1.3
15	30	0.4	70	1.0	30	0.4	45	0.6	30	0.4	110	1.6
16	160	2.3	200	2.9	160	2.3	150	2.1	190	2.7	180	2.6
17	15	0.2	10	0.1	30	0.4	20	0.3	20	0.3	20	0.3
18	0	0.0	0	0.0	10	0.1	0	0.0	0	0.0	0	0.0
19	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20	240	3.4	190	2.7	170	2.5	110	1.6	320	4.6	0	0.0
21	260	3.7	360	5.2	180	2.6	265	3.8	170	2.4	270	3.9
22	20	0.3	0	0.0	10	0.1	10	0.1	0	0.0	20	0.3
23	500	7.2	0	0.0	220	3.2	125	1.8	60	0.9	0	0.0
24	0	0.0	0	0.0	0	0.0	20	0.3	30	0.4	10	0.1
25	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
26	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total	6,805	97.4	7,470	106.9	7,230	103.5	6,515	93.3	6,800	97.3	6,630	94.9
Reach B**												
27	0	0.0	0	0.0	10	0.1	10	0.1	0	0.0	0	0.0
28	400	3.8	80	0.8	320	3.0	100	1.0	270	2.6	110	1.1
29	840	8.0	725	6.9	610	5.8	580	5.5	680	6.5	560	5.3
30	120	1.1	200	1.9	60	0.6	105	1.0	190	1.8	130	1.2
31	10	0.1	160	1.5	10	0.1	25	0.2	70	0.7	10	0.1
32	2,860	27.2	2,450	23.3	1,410	13.4	2,155	20.5	2,560	24.3	1,430	13.6
33	310	2.9	2,020	19.2	2,510	23.8	2,125	20.2	1,290	12.2	1,220	11.6
34	280	2.7	50	0.5	20	0.2	235	2.2	10	0.1	1,980	18.8
35	1,860	17.7	530	5.0	980	9.3	655	6.2	1,150	10.9	1,070	10.2
36	1,520	14.4	1,950	18.5	2,230	21.2	1,980	18.8	1,630	15.5	610	5.8
37	1,070	10.2	1,950	18.5	1,010	9.6	1,835	17.4	1,450	13.8	2,110	20.0
38	560	5.3	780	7.4	510	4.8	740	7.0	720	6.8	1,110	10.5
Total	9,830	93.4	10,895	103.5	9,680	91.9	10,545	100.1	10,020	95.2	10,340	98.2

** All channel shoaling tests were conducted without ships installed in the basin. Shoaling material used was plastic with a specific gravity of 1.05.

Table 2

Effects of Plans on Flow Predominance

Station	Depth	Plan Base	1	3	4B	5B
		Channel Stations				
YA	Surface	-16.5	-16.7	-15.7	-14.2	-17.2
	Middepth	1.8	-0.8	-0.4	0.4	0.8
	Bottom	12.2	7.3	7.8	10.5	7.2
ZA	Surface	-26.4	-17.4	-21.7	-18.7	-27.5
	Middepth	-0.5	3.3	-4.1	4.5	2.7
	Bottom	10.3	4.7	6.6	6.3	8.5
ZB	Surface	-17.1	-19.3	-16.1	-18.6	-24.3
	Middepth	4.1	-2.2	3.3	-2.7	4.3
	Bottom	3.1	9.3	11.4	-1.7	12.0
ZC	Surface	-29.8	-26.9	-24.7	-22.7	-35.4
	Middepth	-13.4	-9.7	-9.8	-12.3	-14.0
	Bottom	-1.0	1.9	7.5	1.9	3.7
OB	Surface	-18.9	-35.2	-30.2	-38.2	-40.3
	Middepth	2.3	0.8	0.1	0.9	-1.6
	Bottom	3.1	-3.5	11.1	3.5	-2.0
OBB	Surface	-24.2	-44.3	-25.7	-38.6	-46.4
	Middepth	-10.9	-21.5	-9.2	-12.2	-20.1
	Bottom	0.4	-4.8	-8.8	0.3	2.0
OBC	Surface	-31.0	-16.6	-24.5	-31.9	-37.3
	Middepth	-4.4	0.6	-8.8	0.1	0.1
	Bottom	16.3	18.3	2.5	13.8	13.9
1AA	Surface	-25.2	-26.0	-24.5	-17.1	-18.2
	Middepth	-2.2	0.9	-1.9	-2.0	-2.4
	Bottom	9.3	10.9	11.2	2.1	15.7
1AB	Surface	-19.7	-24.8	-23.9	-22.1	-23.3
	Middepth	4.3	5.4	2.1	4.0	5.7
	Bottom	12.3	18.4	16.3	9.0	17.7
1AC	Surface	-19.6	-31.0	-24.5	-27.2	-27.3
	Middepth	-4.4	2.4	-2.7	0.9	0.4
	Bottom	7.6	7.7	6.9	7.7	14.4
2AA	Surface	-17.7	-22.2	-20.3	-19.3	-24.4
	Middepth	-1.2	-1.0	-4.7	-3.6	-0.6
	Bottom	4.5	5.6	2.4	1.7	7.1
3A	Surface	-15.3	-24.2	-27.0	-15.7	-25.0
	Middepth	-2.9	0.7	-4.5	-2.9	0.2
	Bottom	12.4	9.0	6.2	8.7	12.2

(Continued)

* A negative sign (-) denotes flow predominance in the ebb direction; values without a sign are positive values and denote flow predominance in the flood direction.

(Sheet 1 of 3)

Table 2 (Continued)

Station	Depth	Plan Base	1	3	4B	5B
		Channel Stations (Continued)				
5A	Surface	-20.7	-29.6	-25.9	-28.5	-37.6
	Middepth	5.9	5.5	3.6	5.4	5.2
	Bottom	13.3	14.5	17.9	15.6	15.1
7B	Surface	-29.8	-30.8	-22.9	-27.0	-22.7
	Middepth	1.2	-1.6	0.3	1.2	0.7
	Bottom	24.4	15.3	14.0	14.3	15.8
9B	Surface	-17.3	-8.2	-10.6	-13.6	-16.3
	Middepth	-3.0	-13.4	-3.1	-6.4	-7.4
	Bottom	4.9	15.9	6.0	8.4	8.8
9AB	Surface	-21.1	-19.6	-21.0	-17.7	-20.9
	Middepth	-6.2	-3.0	-4.1	-6.1	-2.6
	Bottom	33.5	25.5	28.0	23.4	26.7
10A	Surface	-20.7	-10.3	-9.6	-11.1	-14.1
	Middepth	2.1	-1.5	2.8	-0.2	-4.5
	Bottom	14.4	10.0	11.8	14.0	13.8
		Basin Stations				
0A	Surface	-40.7	-36.5	-41.9	-46.0	-44.3
	Middepth	7.7	14.6	4.3	15.4	9.4
	Bottom	2.7	12.9	8.0	17.3	13.4
0AA	Surface	-37.0	-12.4	-18.3	-8.8	0.1
	Middepth	-8.8	2.4	7.8	17.6	25.1
	Bottom	-11.4	-21.6	-20.4	-18.7	-12.5
0BA	Surface	-0.2	18.7	10.5	12.0	11.7
	Middepth	21.3	8.1	-6.3	16.5	9.2
	Bottom	49.6	19.2	15.3	24.8	14.9
MBA	Surface	Slack	-15.4	-3.8	-18.1	-24.5
	Middepth	Slack	-28.4	6.5	-16.1	16.3
	Bottom	Slack	-22.3	-36.9	-28.0	13.8
MBB	Surface	1.3	13.4	-8.9	17.1	-0.2
	Middepth	-25.8	-19.0	8.0	12.4	-28.6
	Bottom	-9.3	-13.1	-11.0	25.5	21.3
MBC	Surface	29.2	20.5	16.3	34.7	37.0
	Middepth	-20.3	9.2	-10.6	-45.1	-22.8
	Bottom	-15.8	-10.5	-43.6	-22.6	-3.3

(Continued)

Table 2 (Concluded)

Station	Depth	Plan Base	1	3	4B	5B
		Basin Stations (Continued)				
MBD	Surface	32.8	15.8	17.6	31.6	5.5
	Middepth	-7.6	17.6	-9.9	-33.6	-16.0
	Bottom	-19.8	-37.6	-27.7	-38.6	-30.5
MBE	Surface	38.9	18.5	25.2	8.8	8.7
	Middepth	36.5	-17.7	9.1	-29.5	-20.0
	Bottom	-2.5	-26.0	-27.3	-49.2	-34.0
MBF	Surface	17.5	12.8	10.4	21.2	21.6
	Middepth	-27.9	-20.6	-20.5	-38.4	-13.2
	Bottom	-7.9	-39.8	-43.6	11.6	-9.1
MBG	Surface	21.0	20.1	21.6	34.3	39.1
	Middepth	-1.8	27.0	17.4	22.7	27.8
	Bottom	18.5	-1.6	-32.1	32.2	11.9
MBH	Surface	-10.6	6.3	9.4	30.5	38.2
	Middepth	-7.3	10.6	4.8	24.1	25.3
	Bottom	16.8	-39.1	15.2	37.6	45.6
MBJ	Surface	16.9	-0.9	4.2	33.5	39.3
	Middepth	-28.1	14.7	10.3	10.7	46.4
	Bottom	3.4	-38.0	-8.4	3.9	46.8
MBK	Surface	-11.1	5.0	5.3	19.3	16.6
	Middepth	-28.3	11.0	17.4	21.6	15.7
	Bottom	3.3	-21.1	-7.3	27.7	19.8
MBL	Surface	-26.7	-8.4	11.3	20.1	21.7
	Middepth	-22.1	-37.3	15.8	32.9	17.6
	Bottom	-10.7	-40.0	-17.2	39.4	-3.0
MBM	Surface	-45.3	-32.8	-34.7	3.0	6.8
	Middepth	-38.8	-48.3	-1.0	14.6	5.5
	Bottom	-29.2	-13.5	-27.8	24.3	-48.2
MBN	Surface	-39.6	-42.1	-42.4	36.4	9.5
	Middepth	-46.6	-43.5	-27.9	49.3	7.1
	Bottom	-50.0	-44.2	-6.8	49.3	36.9
MBP	Surface	--	--	--	49.8	49.7
	Middepth	--	--	--	44.5	49.7
	Bottom	--	--	--	49.7	47.7

Table 3

Effect of Plans on Average Salinities, ppt

Station	Depth	Plan Base	Plan 1	Plan 3	Plan 4B	Plan 5B
		Channel Stations				
YA	Surface	26.0	25.9	25.8	26.6	25.3
	Middepth	30.8	30.7	30.7	31.0	30.5
	Bottom	32.0	32.2	31.8	32.1	32.0
	Average	29.6	29.6	29.4	29.9	29.3
ZA	Surface	25.4	25.6	25.8	26.1	25.1
	Middepth	30.7	30.0	30.1	30.4	29.8
	Bottom	31.8	31.7	31.6	31.7	31.4
	Average	29.3	29.1	29.2	29.4	28.8
ZB	Surface	24.9	24.6	25.1	25.7	24.4
	Middepth	30.5	30.2	30.0	30.5	30.0
	Bottom	32.0	31.8	31.6	31.9	31.8
	Average	29.1	28.9	28.9	29.4	28.7
ZC	Surface	25.0	25.0	25.5	26.2	24.5
	Middepth	30.3	29.8	29.8	30.5	29.5
	Bottom	31.8	31.5	31.4	31.8	31.5
	Average	29.0	28.8	28.9	29.5	28.5
OB	Surface	23.7	23.4	24.0	24.2	22.7
	Middepth	30.4	29.5	30.2	30.3	29.3
	Bottom	32.1	31.8	31.6	32.2	31.9
	Average	28.7	28.2	28.6	28.9	28.0
OBB	Surface	23.9	24.8	25.1	24.6	24.1
	Middepth	28.4	29.7	27.7	28.4	27.3
	Bottom	30.7	31.6	29.2	30.1	29.5
	Average	27.7	28.7	27.3	27.7	27.0
OBC	Surface	22.4	23.0	24.6	23.8	22.2
	Middepth	29.5	26.7	28.5	29.0	28.4
	Bottom	31.4	30.6	30.7	31.6	31.3
	Average	27.8	26.8	27.9	28.1	27.3

(Continued)

Table 3 (Continued)

Station	Depth	Plan Base	1	3	4B	5B
		Channel Stations (Continued)				
1AA	Surface	21.8	21.8	22.8	21.8	20.5
	Middepth	29.0	28.3	27.5	28.6	27.8
	Bottom	30.1	30.4	29.5	29.9	30.2
	Average	27.0	26.8	26.6	26.8	26.2
1AB	Surface	22.2	21.7	21.9	20.9	20.7
	Middepth	29.4	29.4	27.6	28.5	28.5
	Bottom	30.3	30.8	29.6	30.6	30.5
	Average	27.3	27.3	26.4	26.7	26.6
1AC	Surface	22.8	22.1	23.3	21.9	20.7
	Middepth	28.0	27.7	27.5	27.8	27.4
	Bottom	30.2	30.2	29.4	30.1	30.2
	Average	27.0	26.7	26.7	26.6	26.1
2AA	Surface	21.5	20.8	20.9	20.5	19.9
	Middepth	27.8	26.5	26.2	27.2	26.7
	Bottom	30.2	29.8	29.2	29.6	29.8
	Average	26.5	25.7	25.4	25.8	25.5
3A	Surface	20.4	19.8	19.8	19.7	19.0
	Middepth	27.4	26.0	25.8	26.3	25.8
	Bottom	29.8	29.4	28.7	29.4	29.5
	Average	25.9	25.1	24.8	25.2	24.8
5A	Surface	19.4	16.8	18.0	18.1	17.6
	Middepth	26.1	24.5	24.0	24.7	23.7
	Bottom	28.3	27.5	27.1	27.1	28.7
	Average	24.6	22.9	23.0	23.3	23.3
7B	Surface	16.8	16.4	16.0	16.9	14.9
	Middepth	22.6	21.4	21.0	21.4	19.9
	Bottom	24.6	24.5	24.0	24.4	23.9
	Average	21.3	20.8	20.3	20.9	19.6
9B	Surface	14.6	13.0	13.0	14.3	12.5
	Middepth	19.0	17.5	17.4	18.4	16.9
	Bottom	23.1	22.1	21.8	23.0	21.9
	Average	18.9	17.5	17.4	18.6	17.1

(Continued)

(Sheet 2 of 5)

Table 3 (Continued)

Station	Depth	Base	Plan 1	Plan 3	Plan 4B	Plan 5B
		Channel Stations (Continued)				
9AB	Surface	14.7	13.0	13.2	13.6	12.8
	Middepth	18.7	17.6	17.7	18.3	17.9
	Bottom	23.3	23.0	22.2	22.4	22.7
	Average	18.9	17.9	17.7	18.1	17.8
10A	Surface	13.5	12.6	11.8	12.4	11.9
	Middepth	16.8	15.2	15.1	15.9	14.7
	Bottom	21.8	20.6	20.2	21.0	20.2
	Average	17.4	16.1	15.7	16.4	15.6
		Basin Stations				
OA	Surface	23.5	23.1	22.8	23.8	22.5
	Middepth	29.8	29.4	30.2	30.1	29.5
	Bottom	32.2	31.8	31.8	32.1	32.0
	Average	28.5	28.1	28.3	28.6	28.0
OAA	Surface	23.6	24.1	23.6	24.4	23.7
	Middepth	30.2	30.7	30.4	30.7	30.4
	Bottom	32.1	32.2	31.9	32.4	32.1
	Average	28.6	29.0	28.6	29.1	28.7
OBA	Surface	24.8	23.7	23.4	23.5	23.8
	Middepth	31.2	30.6	30.7	31.4	30.8
	Bottom	32.3	32.2	31.7	32.5	32.2
	Average	29.4	28.8	28.6	29.1	28.9
MBA	Surface	25.1	24.3	23.8	23.8	24.8
	1/4	30.0	28.6	27.9	29.0	28.7
	Middepth	31.1	30.4	30.1	30.5	30.3
	3/4	32.2	31.6	31.5	31.8	31.6
	Bottom	32.4	32.0	31.8	32.0	31.9
	Average	30.2	29.4	29.0	29.4	29.5
MBB	Surface	24.1	24.5	24.0	23.1	25.0
	1/4	29.7	28.5	28.8	28.8	28.9
	Middepth	31.1	30.6	30.9	30.8	30.6
	3/4	32.2	32.0	31.9	31.9	31.8
	Bottom	32.5	32.3	32.0	32.2	32.1
	Average	29.9	29.6	29.5	29.4	29.7

(Continued)

Table 3 (Continued)

Station	Depth	Base	Plan 1	Plan 3	Plan 4B	Plan 5B
			Basin Stations (Continued)			
MBC	Surface	25.1	24.6	24.2	24.1	25.0
	1/4	30.2	28.7	28.7	28.9	28.7
	Middepth	31.3	30.7	30.5	30.7	30.5
	3/4	32.4	32.0	31.7	32.1	31.8
	Bottom	32.6	32.3	31.9	32.2	32.0
	Average	30.3	29.7	29.4	29.6	29.6
MBD	Surface	24.7	24.5	24.2	24.2	24.9
	1/4	29.2	28.0	28.1	28.2	28.4
	Middepth	31.1	30.4	30.3	30.2	30.3
	3/4	32.3	31.8	31.7	31.9	31.7
	Bottom	32.6	32.1	31.9	32.1	32.1
	Average	30.0	29.4	29.2	29.3	29.5
MBE	Surface	24.5	24.9	24.3	24.4	25.6
	1/4	29.9	28.7	28.3	28.8	28.8
	Middepth	30.9	30.4	30.0	30.7	30.3
	3/4	32.3	32.0	31.6	31.9	31.8
	Bottom	32.5	32.3	31.9	32.4	32.1
	Average	30.0	29.7	29.2	29.6	29.7
MBF	Surface	24.3	23.8	23.4	23.5	23.8
	1/4	29.7	28.5	28.6	29.0	28.4
	Middepth	31.6	30.8	30.7	30.8	30.5
	3/4	32.2	32.1	31.7	31.9	31.8
	Bottom	32.5	32.3	31.7	32.3	32.1
	Average	30.1	29.5	29.2	29.5	29.3
MBG	Surface	24.9	24.7	23.8	24.4	26.0
	1/4	29.3	28.4	28.6	28.6	28.5
	Middepth	31.5	30.9	31.0	30.9	30.6
	3/4	32.4	32.1	31.9	32.0	31.9
	Bottom	32.5	32.4	32.1	32.4	32.2
	Average	30.1	29.7	29.5	29.7	29.8
MBH	Surface	24.9	24.4	24.2	23.5	25.3
	1/4	29.3	28.4	28.3	28.6	28.4
	Middepth	31.1	30.4	30.6	30.8	30.3
	3/4	32.4	31.8	31.9	32.0	31.8
	Bottom	32.4	32.3	32.2	32.4	32.2
	Average	30.0	29.5	29.4	29.5	29.6

(Continued

(Sheet 4 of 5)

Table 3 (Concluded)

Station	Depth	Base	Plan 1	Plan 3	Plan 4B	Plan 5B
		Basin Stations (Continued)				
MBJ	Surface	24.7	24.7	23.9	24.5	25.1
	1/4	29.4	28.7	28.5	29.2	28.7
	Middepth	31.1	30.6	30.2	30.7	30.6
	3/4	32.2	31.9	31.7	32.0	31.9
	Bottom	32.4	32.3	31.9	32.2	32.1
	Average	30.0	29.6	29.2	29.7	29.7
MBK	Surface	25.4	24.5	23.3	24.6	24.8
	1/4	29.7	28.5	28.4	28.9	28.7
	Middepth	31.0	30.9	30.7	30.9	31.0
	3/4	32.1	32.1	31.7	32.0	31.9
	Bottom	32.5	32.3	31.9	32.4	32.2
	Average	30.1	29.7	29.2	29.7	29.7
MBL	Surface	24.3	24.1	23.8	24.4	24.9
	1/4	29.5	28.4	28.2	28.7	28.5
	Middepth	31.5	30.9	30.8	30.8	30.6
	3/4	32.4	32.2	31.8	32.0	31.9
	Bottom	32.5	32.5	32.1	32.3	32.2
	Average	30.0	29.6	29.3	29.6	29.6
MBM	Surface	24.4	24.6	23.6	24.0	25.5
	1/4	29.6	28.8	28.6	29.1	29.0
	Middepth	31.2	30.7	30.5	30.9	30.7
	3/4	32.4	32.1	31.8	31.9	31.9
	Bottom	32.5	32.5	32.0	32.2	32.2
	Average	30.0	29.7	29.3	29.6	29.9
MBN	Surface	24.1	24.5	23.6	24.5	24.3
	1/4	29.7	28.5	28.4	29.1	28.7
	Middepth	31.0	30.3	30.1	30.5	30.4
	3/4	32.2	32.0	31.8	32.0	31.9
	Bottom	32.4	32.3	31.9	32.2	32.1
	Average	29.9	29.5	29.2	29.7	29.5
MBP	Surface	--	--	--	23.8	24.3
	Middepth	--	--	--	30.4	29.0
	Bottom	--	--	--	32.2	31.1
	Average	--	--	--	28.8	28.1

(Sheet 5 of 5)

Table 4

High-Water Slack Dye Concentrations, ppb

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
Sump	1			0					0					0					0					0		
	2			0					1					2					0					1		
	3			2					3					4					2					2		
	4			4					4					5					4					5		
	5			5					5					5					5					6		
	6			6					5					7					5					6		
	8			8					7					7					5					6		
	10			8					7					7					6					7		
	12			8					7					9					6					8		
	14			8					7					10					7					8		
	16			9					7					9					7					8		
	Avg			5					5					6					4					5		
Ocean	1	0				0	0				0	1				2	9				1	2				0
	2	20				3	30				9	31				4	36				4	82				3
	3	6				1	8				2	35				3	30				1	30				4
	4	4				1	11				1	19				2	30				1	13				1
	5	4				1	17				1	9				2	4				1	6				1
	6	17				1	32				3	24				2	22				1	9				2
	8	7				1	8				3	17				4	11				1	14				3
	10	10				2	11				3	19				6	11				4	11				6
	12	10				4	9				5	12				7	8				4	9				6
	14	8				4	8				6	12				8	8				4	9				8
	16	9				5	7				6	12				10	8				5	9				8
	Avg	9				2	13				4	17				5	16				2	18				5
YA	1	0		0		0	0		0		0	0		0		0	0		0		0	0		0		0
	2	1		0		0	4		0		0	6		0		0	8		0		0	3		0		0
	3	3		0		0	5		0		0	5		0		0	17		0		0	6		0		0
	4	4		1		0	5		0		0	6		0		2	8		2		0	5		0		0
	5	29		13		3	8		3		1	24		1		3	42		4		1	28		10		1
	6	50		11		5	39		10		2	53		7		8	37		9		4	56		9		5
	8	44		11		6	30		7		7	37		11		8	51		8		5	35		11		8
	10	39		11		6	30		7		6	30		9		8	35		9		7	28		11		8
	12	37		11		7	25		8		6	22		10		8	36		11		7	19		10		9
	14	34		9		7	14		6		6	22		10		10	30		8		7	14		10		8
	16	27		8		8	11		7		7	23		10		10	22		8		8	15		10		8
	Avg	24		7		4	16		4		3	21		5		5	26		5		4	19		6		4
ZA	1	106		116		21	48		0		0	846		0		0	1		1		0	796		2		3
	2	478		2		1	64		0		0	703		12		0	106		0		0	637		1		1
	3	84		2		1	210		1		1	386		1		0	221		0		0	231		1		1
	4	39		2		1	84		2		1	116		2		0	114		0		0	11		3		1
	5	16		2		2	16		2		1	65		2		11	11		5		3	64		11		5
	6	25		12		8	47		14		9	72		19		11	59		10		3	50		17		11
	8	29		9		9	25		10		8	34		14		11	77		10		8	40		11		10
	10	30		11		9	16		9		6	25		10		9	59		10		9	22		11		10
	12	29		11		9	13		9		7	18		12		11	56		10		9	13		11		11
	14	17		10		8	11		8		6	16		10		10	51		9		9	12		9		9
	16	15		10		9	9		7		8	14		12		10	59		9		9	11		9		10
	Avg	79		17		7	49		6		4	209		9		7	71		6		5	172		8		7

(Continued)

Table 4 (Continued)

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
ZB	1	54		64		0	9		1		0	512		5		0	0		0		0	27		0		0
	2	398		1		0	11		1		0	626		2		0	1		1		0	535		0		0
	3	9		1		0	20		1		0	364		2		0	179		4		0	169		2		0
	4	9		1		0	11		1		0	21		1		0	4		4		0	5		2		0
	5	14		1		2	22		2		0	77		1		2	18		4		3	17		4		3
	6	34		11		4	44		15		7	49		15		6	23		12		6	30		10		7
	8	21		14		9	19		11		7	27		13		11	25		11		7	17		11		10
	10	23		11		7	13		10		7	30		10		11	23		13		10	20		10		10
	12	14		10		9	14		9		7	15		10		11	19		10		9	14		13		9
	14	13		10		8	11		8		6	16		12		10	19		10		8	12		10		8
	16	13		9		9	11		9		7	15		11		10	15		10		10	10		10		9
	Avg	55		12		4	17		6		4	159		7		6	30		7		5	78		7		5
ZC	1	2		51		0	1		0		0	637		1		0	0		0		0	0		1		0
	2	106		1		0	1		1		2	637		3		2	2		0		0	1		2		0
	3	11		1		0	1		1		0	398		1		2	64		2		2	15		1		0
	4	13		1		1	1		1		0	9		1		2	8		1		2	2		1		1
	5	17		15		6	8		4		2	19		7		3	13		6		5	11		6		4
	6	9		14		8	17		15		6	28		13		10	14		10		7	9		9		7
	8	9		11		8	14		18		7	20		12		11	20		14		7	5		13		9
	10	17		10		8	13		11		7	18		11		9	20		13		11	14		12		9
	12	16		11		9	9		10		7	17		14		11	17		12		10	14		14		10
	14	13		9		8	9		8		7	15		14		10	16		11		10	11		10		9
	16	11		11		8	9		9		7	15		11		10	13		10		9	12		10		10
	Avg	20		12		5	8		7		4	165		8		6	17					8		7		5
OA	1	2		5779		3810	692		221		0	924		189		3	1003		51		0	1965		74		2
	2	604		4		3	659		46		2	1205		52		3	626		18		0	570		42		1
	3	330		2		2	341		22		1	319		31		2	242		8		0	274		16		1
	4	161		3		1	169		15		1	210		10		1	156		3		0	175		4		1
	5	96		14		2	89		8		2	141		22		2	89		7		5	92		10		7
	6	54		13		10	51		15		8	96		16		11	72		13		10	69		16		14
	8	32		14		10	20		11		9	59		16		14	34		11		10	38		13		11
	10	23		13		11	12		9		8	42		12		11	23		14		9	23		11		10
	12	16		12		10	9		8		7	30		13		11	16		11		10	16		11		10
	14	13		10		10	7		8		7	25		11		11	12		11		9	13		10		10
	16	11		11		10	6		8		8	23		11		10	9		10		12	9		10		10
	Avg	122		534		352	187		34		5	280		35		7	208		14		6	295		20		7
OB	1	12		659		2573	735		16		0	524		38		1	724		1		0	535		2		0
	2	466		2		3	766		8		1	769		20		2	242		14		1	535		3		0
	3	111		1		1	319		11		1	473		7		1	242		11		7	179		2		1
	4	109		1		1	116		2		1	161		1		1	158		3		1	144		1		1
	5	84		9		4	77		3		1	124		2		2	74		6		5	51		7		4
	6	39		10		9	43		13		10	79		15		10	46		11		9	42		14		10
	8	34		11		10	69		9		11	51		15		11	30		13		10	18		11		10
	10	23		11		10	12		9		8	32		11		10	21		12		11	15		11		10
	12	17		11		9	9		8		7	28		11		11	17		10		10	13		11		12
	14	13		10		8	7		9		7	19		11		11	12		11		9	11		10		10
	16	11		9		9	8		9		7	17		11		11	11		11		9	11		10		10
	Avg	84		67		240	196		9		5	207		13		7	143		9		7	141		8		6

(Continued)

Table 4 (Continued)

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
OAA	1	13		1580		7788	466		766		111	1003		159		96	924		69		35	1084		69		13
	2	558		28		4	432		119		35	581		64		20	524		16		3	604		52		13
	3	330		11		1	231		64		8	296		74		14	264		19		7	253		19		6
	4	170		10		1	151		35		7	200		15		4	165		7		2	175		12		4
	5	124		9		4	99		9		13	141		16		5	94		6		5	104		13		8
	6	84		14		12	49		13		9	94		19		13	64		16		10	67		16		15
	8	45		13		13	22		13		9	54		18		15	35		11		11	40		13		11
	10	30		11		11	13		8		8	40		11		11	22		10		10	23		11		11
	12	17		11		10	9		8		8	30		12		12	16		10		10	16		13		11
	14	13		10		10	6		8		6	26		13		11	12		9		9	12		10		11
	16	12		10		10	6		9		8	22		11		11	9		9		10	11		10		10
	Avg	127		156		715	135		96		20	226		38		19	194		17		10	217		22		10
OBA	1	96		5779		1793	364		2138		168	432		2443		1992	615		1165		1246	807		2913		501
	2	1205		604		116	432		846		109	524		1043		77	478		231		16	570		409		27
	3	409		210		43	231		151		31	319		443		46	242		210		10	285		210		20
	4	199		189		13	144		106		14	185		173		14	175		72		6	185		35		23
	5	126		87		13	84		38		14	92		44		14	104		42		7	109		29		12
	6	87		45		12	46		28		14	56		33		14	74		25		10	69		23		15
	8	45		24		13	33		16		14	45		26		17	34		15		11	41		16		13
	10	28		12		11	24		10		10	42		14		13	22		13		11	29		12		11
	12	19		11		10	9		9		10	31		14		12	15		11		10	17		11		11
	14	14		11		10	6		9		8	25		12		12	11		9		9	17		10		10
	16	11		9		10	5		9		8	22		11		11	9		10		9	10		10		9
	Avg	204		635		186	125		306		36	161		387		196	162		164		122	195		334		59
OBB	1	0		33		179	37		2747		626	210		175		96	62		31		189	69		56		45
	2	285		109		72	169		79		141	200		169		99	42		25		40	39		29		32
	3	82		33		39	45		29		10	161		92		59	87		21		67	69		23		34
	4	72		31		30	38		21		13	79		36		18	46		13		24	36		13		6
	5	32		20		22	31		10		6	26		13		10	15		17		24	24		13		16
	6	28		19		21	19		15		16	31		24		21	19		15		15	23		16		13
	8	22		15		16	13		11		11	23		20		18	16		13		13	15		13		13
	10	14		13		14	9		10		9	22		13		14	15		12		12	13		12		11
	12	12		12		10	8		8		8	15		13		13	14		12		10	13		11		11
	14	11		11		10	7		7		8	14		13		13	13		11		10	10		10		10
	16	10		10		9	7		9		7	13		12		13	12		10		9	10		10		10
	Avg	52		28		38	35		268		78	72		53		34	31		16		38	29		19		18
OBC	1	3		94		3007	210		161		221	341		39		192	158		33		169	189		74		87
	2	319		30		12	242		139		77	189		36		72	82		24		43	178		31		31
	3	197		8		4	121		46		11	178		10		24	62		29		41	101		29		23
	4	101		10		5	46		18		10	77		14		6	77		12		3	65		9		2
	5	60		15		11	36		17		5	53		9		5	48		20		13	46		13		8
	6	50		17		13	27		20		15	45		21		14	37		13		10	37		20		14
	8	32		13		12	17		14		17	37		16		15	25		14		11	23		14		11
	10	21		12		10	12		11		9	22		13		11	18		14		11	17		13		11
	12	15		11		10	10		9		8	17		13		11	14		11		11	14		12		10
	14	12		11		9	8		8		7	18		12		11	13		11		10	11		11		10
	16	11		10		9	9		9		8	14		12		11	12		11		10	11		10		10
	Avg	75		21		282	67		41		35	89		18		34	50		18		30	63		22		20

(Continued)

Table 4 (Continued)

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Sur-face	1/4	Mid-depth	3/4	Bot-tom	Sur-face	1/4	Mid-depth	3/4	Bot-tom	Sur-face	1/4	Mid-depth	3/4	Bot-tom	Sur-face	1/4	Mid-depth	3/4	Bot-tom	Sur-face	1/4	Mid-depth	3/4	Bot-tom
1AA	1	296		139		46	169		59		31	179		79		15	535		62		69	1124		46		24
	2	200		62		33	200		54		23	169		89		21	253		41		43	535		36		23
	3	161		24		14	126		29		16	114		114		9	169		20		14	221		18		8
	4	106		16		18	67		17		9	66		84		7	49		32		9	119		18		8
	5	72		12		7	38		10		8	35		61		5	62		12		10	72		17		8
	6	62		20		16	34		16		15	44		23		18	42		13		13	59		18		17
	8	35		13		12	18		12		11	25		18		16	26		13		13	32		15		12
	10	23		11		11	14		10		10	21		17		12	17		11		11	22		12		12
	12	17		11		13	11		9		10	16		16		14	13		11		11	16		11		10
	14	14		11		10	9		8		8	14		14		12	10		10		10	12		10		10
	16	12		10		9	8		9		8	14		13		12	10		11		9	10		9		10
	Avg	91		30		17	63		21		14	63		48		13	108		22		19	202		19		13
1AB	1	242		84		32	185		48		26	179		56		19	178		62		9	264		46		15
	2	178		16		11	189		56		15	169		64		26	149		27		15	274		30		15
	3	131		14		8	129		27		14	121		31		13	141		14		5	187		16		7
	4	101		13		5	60		14		5	84		14		9	82		10		3	87		16		7
	5	77		10		7	34		9		21	43		12		6	59		12		7	77		11		8
	6	54		17		15	30		17		15	45		22		19	53		14		11	56		18		14
	8	35		13		12	17		12		11	30		17		17	28		13		12	31		12		11
	10	24		12		11	13		11		10	23		14		13	17		12		11	20		12		11
	12	16		11		11	11		9		9	18		13		13	13		11		10	16		11		11
	14	13		10		10	9		8		8	17		14		12	11		11		11	13		10		10
	16	12		10		11	8		8		8	16		12		11	10		10		10	10		10		10
	Avg	80		19		12	62		20		13	68		25		14	67		18		10	94		18		10
1AC	1	182		67		5	200		56		21	179		77		29	200		67		17	144		44		8
	2	129		11		6	169		64		22	189		89		56	161		35		17	200		37		9
	3	96		8		6	129		27		13	153		43		29	111		13		6	165		16		4
	4	59		10		2	59		18		5	82		23		11	56		9		2	69		10		8
	5	40		11		7	37		11		9	41		25		11	62		14		10	56		11		7
	6	41		20		15	33		19		16	47		23		22	45		14		11	54		17		14
	8	25		14		12	20		12		11	31		23		17	28		13		12	28		12		12
	10	18		12		10	14		11		11	20		15		13	17		13		12	21		13		13
	12	14		11		10	11		16		9	18		14		13	13		11		10	16		11		11
	14	12		11		10	10		11		9	16		13		12	12		12		11	12		10		10
	16	11		10		10	9		9		8	16		13		11	10		11		8	11		10		9
	Avg	57		17		9	63		23		12	72		33		20	65		19		11	71		17		10
2AA	1	139		89		38	179		72		32	189		74		52	175		153		32	386		189		32
	2	175		66		24	185		62		30	210		74		45	149		55		15	421		5[illegible]		22
	3	99		35		15	143		32		25	141		49		26	116		26		10	168		[illegible]8		11
	4	62		13		9	69		18		9	77		27		15	87		11		6	141		14		101
	5	47		14		9	45		13		13	45		13		11	59		15		11	72		16		10
	6	47		21		19	30		15		15	47		26		23	44		17		15	57		20		17
	8	28		14		13	17		13		12	31		21		18	30		15		13	42		15		13
	10	18		12		11	13		10		10	21		16		13	16		13		12	22		14		12
	12	15		11		10	19		10		9	17		15		13	15		11		11	15		11		11
	14	12		11		10	8		9		8	15		13		12	11		10		10	12		10		10
	16	11		10		10	7		9		8	15		14		12	9		10		10	10		10		11
	Avg	59		26		15	65		24		16	74		32		22	65		31		13	122		34		23

(Continued)

Table 4 (Continued)

Station	Cycle	Base Surface	Base 1/4	Base Mid-depth	Base 3/4	Base Bottom	Plan 1 Surface	Plan 1 1/4	Plan 1 Mid-depth	Plan 1 3/4	Plan 1 Bottom	Plan 3 Surface	Plan 3 1/4	Plan 3 Mid-depth	Plan 3 3/4	Plan 3 Bottom	Plan 4B Surface	Plan 4B 1/4	Plan 4B Mid-depth	Plan 4B 3/4	Plan 4B Bottom	Plan 5B Surface	Plan 5B 1/4	Plan 5B Mid-depth	Plan 5B 3/4	Plan 5B Bottom
3A	1	153		44		33	165		92		99	192		104		50	375		109		74	628		210		36
	2	242		49		21	221		59		30	189		87		42	231		69		51	375		109		31
	3	163		35		19	141		36		21	139		54		25	175		33		17	210		38		19
	4	104		17		9	79		19		9	99		32		15	101		13		8	119		17		10
	5	79		14		9	54		23		13	59		28		14	87		15		14	72		17		11
	6	59		23		21	34		19		15	52		26		23	60		15		12	57		22		19
	8	35		16		13	20		18		16	38		21		25	28		15		14	35		15		15
	10	24		13		12	13		11		11	27		17		15	20		13		13	22		13		14
	12	16		12		11	9		9		9	21		14		14	14		11		11	17		11		11
	14	13		11		10	8		11		9	17		13		13	10		10		10	12		11		10
	16	11		10		10	7		9		8	16		13		13	10		10		9	10		10		10
	Avg	82		22		15	69		28		22	77		37		22	101		29		22	141		43		17
5A	1	35		124		82	26		39		87	47		82		82	149		179		242	134		146		210
	2	173		69		49	175		41		69	159		109		67	231		99		101	221		94		94
	3	178		56		35	114		20		36	115		59		42	149		56		38	165		64		46
	4	131		32		18	87		19		21	146		39		26	126		35		24	119		32		21
	5	99		29		14	46		17		11	104		28		23	92		23		17	92		22		17
	6	74		30		23	30		19		17	79		33		23	64		22		19	66		24		18
	8	44		20		17	19		12		11	59		23		22	33		15		15	39		18		15
	10	27		14		12	14		11		11	42		18		17	20		13		13	23		13		13
	12	19		12		11	9		10		10	35		15		19	11		11		11	16		12		12
	14	13		11		11	8		9		9	29		14		15	8		9		9	11		10		10
	16	11		10		11	5		7		8	23		13		16	7		10		9	9		10		9
	Avg	73		37		26	49		19		26	76		39		32	81		43		45	81		41		42
7B	1	23		558		443	44		285		101	74		159		111	129		581		478	124		432		178
	2	189		307		274	176		189		119	187		151		101	189		200		170	210		264		165
	3	165		189		189	114		101		94	165		101		94	180		136		104	163		131		136
	4	131		144		106	82		59		64	121		79		38	129		92		51	119		84		101
	5	99		87		54	49		30		41	96		46		30	92		56		34	79		46		59
	6	72		54		41	28		28		28	77		41		28	62		44		32	52		39		47
	8	41		32		23	15		15		16	51		34		28	35		32		21	36		23		22
	10	26		18		17	10		11		11	40		29		20	20		17		13	23		18		16
	12	17		14		12	8		9		9	32		22		9	12		11		11	17		13		11
	14	12		12		11	6		8		7	23		22		16	8		9		9	11		10		9
	16	10		10		10	4		6		5	22		17		15	7		7		9	8		9		9
	Avg	71		130		107	48		67		45	81		64		45	79		108		85	77		97		69
9AB	1	0		28		796	242		352		1287	87		221		1124	59		101		1370	40		592		1665
	2	35		221		386	69		231		570	89		264		432	72		274		466	59		365		524
	3	64		192		200	56		158		221	99		169		210	109		173		421	84		200		210
	4	67		134		129	34		99		129	101		141		148	96		136		210	74		111		114
	5	46		99		87	27		54		72	92		101		104	56		92		71	64		74		67
	6	45		72		62	19		34		40	74		77		77	39		62		51	44		62		46
	8	26		40		35	13		16		19	56		54		49	19		32		30	23		35		30
	10	15		25		22	9		11		13	41		33		36	11		21		19	15		22		18
	12	11		16		15	6		8		38	33		33		30	8		12		13	9		14		13
	14	9		13		11	5		6		27	28		25		24	5		8		9	6		10		10
	16	6		10		10	4		4		27	23		33		27	4		6		8	4		7		8
	Avg	30		77		159	44		88		222	66		105		206	44		83		242	38		136		246

(Continued)

Table 4 (Continued)

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
9B	1	25		885		1329	9		489		708	67		703		745	22		743		924	18		703		626
	2	89		421		466	62		341		409	141		296		242	159		341		319	190		375		352
	3	64		189		231	38		181		180	148		167		180	173		169		178	182		200		189
	4	54		119		139	40		111		101	129		134		126	99		141		101	106		116		96
	5	49		92		87	28		56		56	101		99		92	89		82		74	74		62		56
	6	51		66		56	22		37		34	79		74		64	62		59		44	59		51		46
	8	25		34		33	13		17		11	57		49		42	27		36		27	34		33		28
	10	13		22		22	9		11		12	44		36		30	16		21		17	19		21		18
	12	11		15		16	7		9		9	33		30		29	9		12		12	14		15		14
	14	11		12		12	5		6		7	30		31		23	7		9		10	5		7		6
	16	7		10		10	5		6		6	25		20		16	5		8		8	7		9		9
	Avg	36		169		218	22		115		139	78		149		145	61		147		156	64		145		131
10A	1	0		116		1329	0		69		1836	3		285		1165	1		189		2246	5		364		1580
	2	46		210		489	20		200		615	96		221		421	104		274		455	82		296		501
	3	79		179		231	49		165		231	96		159		189	109		179		179	106		189		221
	4	67		129		131	42		101		134	96		146		89	94		139		116	74		126		116
	5	62		87		94	26		59		72	101		101		94	56		92		74	51		74		67
	6	50		72		62	20		34		39	94		79		69	44		64		51	46		64		51
	8	25		40		35	13		16		18	53		52		45	21		32		29	27		39		31
	10	20		24		22	10		11		11	40		42		31	14		20		18	17		23		20
	12	12		16		16	6		8		10	34		32		26	9		12		13	11		16		16
	14	9		11		12	5		6		8	30		26		20	6		9		9	2		4		8
	16	7		10		11	4		5		6	25		23		18	5		8		8	6		8		9
	Avg	34		81		221	18		61		271	61		106		197	42		93		199	39		109		238
IWS	1	0				0	0				0	0				0	0				0	0				2
	2	119				119	1				3	1				1	0				1	156				153
	3	141				139	39				36	39				39	54				59	153				156
	4	119				119	52				52	64				67	77				82	124				124
	5	94				92	55				52	79				79	94				99	104				94
	6	69				69	54				52	87				80	92				94	69				72
	8	40				42	44				42	77				77	79				79	59				62
	10	27				27	36				36	69				69	62				62	24				25
	12	18				18	31				31	67				62	53				51	16				16
	14	13				12	26				27	55				55	42				37	10				10
	16	9				10	20				21	48				49	33				32	10				10
	Avg	59				59	33				32	53				53	53				55	66				66
IWN	1	0				0	0				0	0				0	0				0	0				0
	2	0				0	1				0	1				0	0				0	0				0
	3	4				0	16				1	5				1	1				0	8				0
	4	18				1	34				3	9				2	4				1	28				1
	5	23				3	37				7	20				6	9				3	28				15
	6	23				19	32				9	21				24	18				3	44				33
	8	41				31	24				21	36				31	37				38	42				30
	10	33				26	20				23	35				26	34				30	40				25
	12	30				23	11				19	36				27	33				29	32				23
	14	25				20	12				16	30				25	30				28	23				19
	16	20				18	9				14	30				22	23				23	19				17
	Avg	20				13	18				10	20				15	17				14	24				15

(Continued)

Table 4 (Continued)

Station	Cycle	Base Sur-face	Base 1/4	Base Mid-depth	Base 3/4	Base Bot-tom	Plan 1 Sur-face	Plan 1 1/4	Plan 1 Mid-depth	Plan 1 3/4	Plan 1 Bot-tom	Plan 3 Sur-face	Plan 3 1/4	Plan 3 Mid-depth	Plan 3 3/4	Plan 3 Bot-tom	Plan 4B Sur-face	Plan 4B 1/4	Plan 4B Mid-depth	Plan 4B 3/4	Plan 4B Bot-tom	Plan 5B Sur-face	Plan 5B 1/4	Plan 5B Mid-depth	Plan 5B 3/4	Plan 5B Bot-tom
MBA	1	7927	7648	3161	1165	1454	1124	6359	1836	964	626	769	8336	6937	2557	1454	1329	5924	2913	1496	1205	730	4775	2113	1329	1287
	2	1580	2660	846	681	648	745	3036	807	570	455	1003	4634	1622	1084	547	1043	3944	885	489	375	1622	1836	730	421	319
	3	964	964	221	210	386	501	766	285	242	285	885	3161	1165	776	409	626	659	285	182	179	924	796	352	253	341
	4	242	524	96	131	179	242	421	165	170	179	512	964	432	570	285	274	274	114	104	72	421	296	129	134	175
	5	210	175	64	72	94	141	242	59	96	116	264	421	151	242	274	221	99	37	36	34	170	[illegible]	94	79	114
	6	189	96	62	49	84	89	94	47	87	84	194	231	96	189	200	168	62	25	22	20	161	[illegible]	51	42	58
	8	96	44	17	23	40	27	32	23	29	44	79	92	49	94	114	47	24	16	17	16	46	33	24	26	37
	10	30	17	16	13	26	16	21	13	14	23	51	49	30	28	64	35	17	15	14	13	29	20	15	16	21
	12	19	14	13	13	15	11	11	10	12	15	33	25	23	22	32	21	14	12	13	12	21	14	13	17	14
	14	14	13	11	11	12	8	10	10	10	10	26	19	15	16	20	15	11	11	11	11	15	11	11	12	12
	16	11	10	9	11	11	7	9	8	8	9	22	14	13	14	17	11	11	10	11	10	11	11	10	11	11
	Avg	1026	1106	410	216	268	265	1000	297	200	168	349	1632	958	508	310	345	1004	393	218	177	377	735	322	213	217
MBB	1	1580	2573	2225	1165	1538	535	8699	1412	501	455	570	8699	7927	1205	964	730	7080	5490	2877	681	1084	8064	4217	1287	885
	2	776	964	466	319	352	807	2792	443	421	319	1084	3944	964	501	466	637	1412	692	274	169	1043	2356	1084	296	221
	3	386	274	148	189	274	398	626	180	190	231	703	2616	615	274	341	375	421	210	169	62	592	1329	264	163	139
	4	210	136	84	106	111	189	274	109	134	169	319	637	386	185	210	179	253	116	34	26	274	253	99	72	51
	5	141	79	46	44	72	121	92	69	77	114	179	231	179	146	169	148	92	42	23	16	156	116	79	38	30
	6	92	34	31	31	48	56	51	37	32	58	146	182	92	74	124	106	36	24	22	16	87	52	41	26	27
	8	47	19	17	20	31	24	22	18	17	26	74	62	57	47	59	43	24	19	16	14	42	30	19	18	20
	10	27	13	14	14	22	15	12	13	11	18	46	27	25	22	40	30	17	14	14	12	30	15	14	14	15
	12	20	12	12	12	16	11	9	10	8	13	33	20	18	20	28	19	13	12	11	11	19	13	12	12	11
	14	14	10	10	10	12	10	10	9	10	10	26	16	15	16	19	13	11	11	11	11	15	12	11	11	11
	16	11	10	10	10	11	10	9	9	8	9	23	14	14	13	14	11	11	11	10	11	11	11	11	10	10
	Avg	300	375	279	175	226	198	1145	210	128	129	291	1495	936	228	221	208	852	604	315	94	305	1114	533	177	129
MBC	1	2530	5779	2747	1580	1124	885	8699	3036	724	615	2913	8699	8603	2095	924	1205	6214	1836	1329	615	1084	7927	2330	1165	648
	2	1124	1580	319	274	285	1084	4775	375	409	274	1084	5634	1496	352	432	730	1205	592	285	221	1412	1124	524	242	179
	3	501	648	169	163	151	432	386	146	185	200	681	2573	466	210	221	341	253	129	111	79	648	330	221	134	119
	4	242	264	77	94	94	200	185	84	87	146	296	615	87	89	79	200	106	51	43	30	253	179	79	46	64
	5	153	175	39	55	53	144	111	56	67	67	169	210	99	87	114	139	56	28	21	18	148	79	33	26	33
	6	99	46	30	33	43	64	59	29	25	49	151	148	58	46	57	92	31	19	18	17	84	46	28	26	30
	8	47	30	17	22	29	24	21	14	17	27	72	54	43	35	36	41	23	17	16	15	42	26	18	17	20
	10	26	17	14	13	19	15	12	11	13	15	46	25	24	21	32	28	16	14	14	14	27	21	17	13	13
	12	18	14	12	12	13	11	10	11	10	11	34	20	18	17	22	18	12	12	11	11	18	13	12	12	13
	14	14	11	10	11	11	9	9	9	9	10	27	17	14	14	15	13	11	11	11	11	14	11	11	10	11
	16	11	10	10	10	10	7	9	8	9	9	22	14	13	12	14	11	11	10	10	11	11	11	11	12	11
	Avg	433	779	313	206	166	261	1298	344	141	129	500	1637	993	271	177	256	722	247	170	95	340	888	299	155	104
MBD	1	2095	7788	1580	512	489	648	8699	2913	1165	648	558	8699	4080	1496	846	2530	3546	1329	924	659	807	6937	2330	501	581
	2	1205	2312	769	200	231	1124	3287	455	455	364	885	3546	1454	307	274	1003	1003	341	221	169	1003	524	161	151	161
	3	535	1370	285	165	189	489	1287	319	242	189	455	1205	352	185	146	364	264	111	79	72	478	285	146	84	92
	4	221	626	62	109	96	210	189	89	111	136	264	570	114	101	111	179	104	46	26	24	231	59	46	35	27
	5	141	341	59	51	41	121	151	51	87	104	180	221	89	74	74	114	69	21	16	11	141	54	23	23	22
	6	94	141	51	34	34	64	74	20	27	30	139	158	41	48	44	82	36	17	15	13	84	30	23	22	20
	8	45	52	20	20	20	25	20	15	17	18	62	46	35	27	32	42	25	15	14	14	42	19	17	20	17
	10	27	28	15	12	14	14	13	13	11	11	46	31	20	18	21	26	17	13	12	12	25	15	12	13	13
	12	19	13	11	12	13	11	11	10	11	11	31	20	17	15	14	17	13	11	11	11	19	13	12	12	12
	14	19	11	10	11	10	8	8	9	8	9	27	17	13	13	16	13	11	11	11	10	13	11	11	11	13
	16	12	10	10	10	10	8	9	9	9	10	24	14	13	13	13	12	11	10	11	10	11	11	11	11	10
	Avg	401	1154	261	103	104	248	1250	355	195	139	243	1321	566	209	145	398	464	175	122	91	260	724	254	80	88

(Continued)

Table 4 (Continued)

Station	Cycle	Base					Plan 1					Plan 3					Plan 4b					Plan 5B				
		Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
MBE	1	1665	4355	1412	670	713	766	8699	2220	885	766	637	4634	2008	455	769	2182	1665	1165	735	501	1707	3677	2008	924	648
	2	964	1538	730	501	455	1043	2673	1454	964	512	1043	2220	924	604	501	885	296	179	111	99	1454	455	296	242	231
	3	478	964	409	386	285	421	1043	375	242	221	524	375	221	210	179	352	187	101	49	46	648	111	116	94	96
	4	221	558	221	173	165	189	535	274	231	189	231	512	190	139	111	169	69	26	25	19	296	59	38	35	32
	5	129	221	89	51	62	112	139	119	106	111	190	200	114	84	89	124	30	16	12	12	139	31	25	24	22
	6	94	114	49	35	47	56	101	50	48	55	124	131	54	57	64	69	30	16	14	13	69	27	23	23	21
	8	44	36	23	17	22	24	25	26	23	17	59	31	27	26	30	37	21	15	14	14	30	18	16	16	18
	10	28	19	14	14	13	14	17	15	13	14	44	21	20	19	18	26	15	13	11	11	20	15	14	14	13
	12	19	15	13	13	13	11	10	11	11	11	33	17	15	15	15	17	13	11	11	11	11	11	12	11	15
	14	14	12	10	11	11	9	10	9	9	10	27	15	15	15	13	14	11	11	11	11	13	11	11	11	11
	16	11	11	10	10	10	7	9	11	9	9	23	13	12	12	13	11	11	10	10	10	11	10	10	10	9
	Avg	333	713	271	171	163	240	1206	415	231	174	267	743	327	149	164	354	214	142	91	68	400	402	234	128	102
MBF	1	1043	5202	6069	5779	5346	443	7507	5490	5202	4494	352	7648	7788	4775	5059	648	5059	2442	2673	2225	1287	6504	3546	3036	3036
	2	570	2008	1161	489	432	512	4494	1370	1665	285	659	2073	735	274	189	466	592	713	1043	307	1003	1370	885	1665	253
	3	330	296	231	144	109	264	846	364	386	175	307	1205	352	242	153	274	149	149	165	26	443	443	242	443	121
	4	210	141	151	121	59	136	141	169	307	109	189	375	264	194	121	169	89	62	58	6	210	170	151	165	72
	5	129	77	99	96	37	89	92	101	187	59	148	189	111	89	74	126	36	32	32	7	131	79	64	129	32
	6	89	64	56	59	17	51	64	56	131	35	116	77	69	57	46	87	31	34	30	15	82	55	45	25	30
	8	46	30	28	27	15	22	23	23	34	21	62	34	43	33	36	45	20	18	17	13	44	26	24	25	17
	10	28	14	15	12	13	14	13	13	13	15	46	25	30	21	23	30	16	15	14	14	27	21	15	13	14
	12	18	13	13	12	13	11	11	9	11	11	33	20	17	14	17	19	13	12	11	11	18	23	14	12	12
	14	14	11	11	11	10	9	9	9	10	10	28	17	15	13	14	14	11	11	10	10	13	12	11	11	11
	16	11	10	11	11	10	6	8	9	10	10	23	14	13	13	12	10	11	10	11	10	11	10	10	10	10
	Avg	226	715	895	615	551	142	1201	692	723	475	179	1062	858	521	522	172	548	318	369	241	297	792	455	503	328
MBG	1	1879	7507	4775	730	745	615	8699	2008	501	319	2616	8699	2747	547	713	2834	3416	1836	846	169	2269	4634	3287	1043	648
	2	964	3810	319	161	114	846	1793	341	161	185	807	2008	592	231	146	846	964	319	153	25	1580	2358	285	189	136
	3	386	570	84	96	62	409	692	159	148	134	386	432	173	139	114	330	352	114	41	8	659	501	169	139	111
	4	221	242	40	72	51	179	307	51	89	111	210	159	96	96	72	169	99	39	11	4	398	158	69	96	50
	5	139	179	24	51	30	114	94	40	46	41	187	129	64	51	43	121	55	19	8	7	129	77	37	25	27
	6	92	49	23	27	20	56	106	34	20	21	124	77	40	28	25	77	45	18	14	11	74	45	29	23	23
	8	45	27	14	13	15	23	22	14	15	17	62	60	27	22	24	40	23	15	15	11	36	21	20	17	23
	10	28	17	12	12	11	15	12	11	11	13	44	22	19	16	15	26	19	14	12	11	23	17	14	15	14
	12	18	12	11	12	11	11	10	10	9	11	33	19	16	14	14	18	14	11	11	11	17	13	13	12	13
	14	13	11	11	11	11	8	10	8	9	9	26	15	16	12	13	13	11	10	10	10	12	11	11	10	11
	16	11	10	10	10	10	7	9	8	8	8	22	13	12	12	12	11	11	11	10	10	14	11	11	11	10
	Avg	345	1130	484	109	98	208	1069	244	93	79	411	1058	346	106	108	408	455	219	103	25	474	713	359	144	97
MBH	1	1622	7507	1622	807	432	524	8471	2442	432	221	766	4355	1665	807	242	1370	3287	2008	1454	185	846	4217	2269	1084	124
	2	1084	3287	386	179	296	769	2113	307	169	253	846	2673	512	296	253	769	681	307	231	106	1003	769	189	165	109
	3	478	512	136	119	168	352	1329	179	179	189	375	807	231	173	139	330	200	94	69	18	443	341	126	126	126
	4	242	179	74	89	67	189	386	124	87	144	242	535	169	141	69	179	92	37	21	6	210	83	56	47	30
	5	144	141	56	56	62	111	253	51	46	44	173	221	106	51	54	121	58	25	14	6	126	57	25	21	22
	6	94	56	30	32	30	62	77	32	31	30	119	87	67	48	30	82	32	19	16	11	77	32	25	26	20
	8	45	40	20	21	21	23	30	16	15	15	62	43	23	26	27	40	21	15	14	13	42	20	18	16	15
	10	27	21	13	13	14	14	17	11	12	13	44	29	21	17	16	26	17	14	12	12	26	16	14	14	13
	12	19	13	11	11	12	10	11	11	10	9	32	20	17	14	14	16	13	12	11	11	18	13	12	12	11
	14	14	12	10	10	10	9	9	9	9	9	26	17	15	13	14	13	11	11	11	10	13	11	11	11	11
	16	11	10	10	10	10	6	11	9	9	9	23	14	13	12	12	11	10	11	11	10	11	10	10	11	10
	Avg	344	1071	215	123	102	188	1155	290	91	85	246	800	258	145	79	269	402	232	170	35	256	506	251	139	45

(Continued)

Table 4 (Continued)

Station	Cycle	Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
		Surface	1/4	Mid-depth	1/4	Bottom	Surface	1/4	Mid-depth	1/4	Bottom	Surface	1/4	Mid-depth	1/4	Bottom	Surface	1/4	Mid-depth	1/4	Bottom	Surface	1/4	Mid-depth	1/4	Bottom
MBJ	1	1454	4217	1622	924	776	570	8699	2330	570	535	681	8201	1454	1003	398	1003	1836	1165	524	330	1580	3416	1370	692	341
	2	1003	2573	1165	806	692	964	3287	1454	626	398	964	3810	964	501	512	769	375	210	180	111	1165	824	341	307	231
	3	421	724	264	285	398	466	2704	924	352	307	432	626	307	253	285	307	194	94	56	46	443	158	141	121	111
	4	221	604	189	200	200	189	670	341	221	169	210	352	200	153	151	179	44	30	20	15	210	72	50	47	41
	5	134	200	106	129	106	124	398	134	96	94	168	116	94	87	77	121	25	15	13	13	134	32	25	23	26
	6	89	106	49	39	37	59	124	82	77	53	109	87	56	51	44	79	25	15	16	14	77	27	23	23	23
	8	43	34	39	22	24	23	30	26	26	23	56	38	35	31	29	39	19	15	14	14	36	18	18	23	15
	10	25	18	15	16	14	15	19	15	15	14	44	23	21	20	17	28	15	12	12	12	26	15	15	13	13
	12	20	14	13	12	11	11	11	11	11	11	32	17	16	17	14	18	12	11	11	11	17	12	11	12	12
	14	14	13	12	11	11	10	9	10	10	10	27	14	13	22	14	13	11	11	10	10	14	14	11	11	11
	16	12	10	10	10	9	6	10	8	9	8	21	11	12	12	12	11	11	11	10	10	11	11	10	10	10
	Avg	312	774	317	223	207	222	1451	485	183	148	250	1209	288	196	141	233	233	145	79	53	338	418	183	117	76
MBK	1	2095	6069	2913	3677	4217	421	8699	6793	3677	5490	659	5779	6793	3944	6069	1454	5779	3161	1750	3161	1454	4355	2557	2008	2913
	2	1205	2008	1003	330	231	547	1665	885	409	153	637	3036	1003	352	136	786	592	745	604	296	1124	1003	924	466	96
	3	570	178	173	231	46	285	924	253	136	94	352	637	264	87	37	352	253	169	101	11	432	535	221	182	62
	4	210	96	109	49	33	148	180	159	74	44	210	169	173	56	24	169	131	62	37	2	200	141	109	69	30
	5	151	44	96	35	30	87	158	84	49	29	161	79	126	32	18	121	43	29	16	4	129	101	56	46	17
	6	96	28	40	27	25	51	56	60	31	17	114	54	43	27	18	77	36	32	17	17	77	33	38	30	21
	8	45	23	21	26	15	23	22	21	16	13	62	28	35	21	17	41	21	17	14	11	42	24	25	17	14
	10	27	14	12	12	11	14	11	11	11	10	44	24	22	15	16	25	18	16	13	11	29	16	15	13	11
	12	19	12	11	11	12	11	10	9	10	10	33	17	16	14	13	18	13	12	13	11	19	13	13	12	11
	14	14	10	10	10	10	9	9	9	8	8	28	15	14	11	12	13	11	13	10	10	13	11	11	10	11
	16	11	10	10	10	10	7	8	9	9	9	22	14	12	12	11	11	11	11	10	10	10	10	10	10	9
	Avg	404	772	400	402	422	146	1068	734	403	534	211	896	773	416	579	279	628	388	235	322	321	568	362	260	291
MBL	1	1496	7966	2330	1538	1370	703	8699	3416	846	769	766	8699	8064	1370	846	1836	4917	3287	1793	924	2917	4080	1124	421	443
	2	766	3287	221	179	109	1003	807	153	126	165	807	4080	296	253	175	1043	648	409	285	153	1879	1043	489	274	189
	3	421	109	96	46	29	421	296	79	101	104	670	1665	106	82	51	478	159	153	87	33	703	512	200	163	104
	4	221	46	41	26	21	200	129	54	56	51	285	648	59	39	36	179	119	43	33	17	296	185	124	74	37
	5	134	31	25	23	20	109	79	25	22	29	179	364	33	29	29	111	41	21	21	13	139	79	42	38	27
	6	89	26	23	16	14	56	43	20	21	23	119	129	28	24	22	74	28	21	17	13	77	35	32	23	22
	8	44	19	13	14	13	24	21	12	12	15	62	43	23	20	17	37	20	17	15	14	39	23	19	16	13
	10	26	16	11	13	13	15	13	11	13	11	43	30	14	17	15	26	16	14	13	13	26	16	14	13	12
	12	19	14	11	11	10	10	12	9	9	10	30	21	15	13	14	17	13	11	11	11	17	12	11	11	11
	14	13	13	10	11	10	8	9	8	9	8	25	16	14	12	13	13	11	11	10	10	13	11	11	11	11
	16	12	10	10	10	9	6	10	9	10	10	20	15	13	11	12	11	11	11	10	10	11	11	10	10	10
	Avg	295	994	254	172	147	233	920	345	111	109	273	1428	788	170	112	348	544	364	209	110	556	546	189	96	80
MBM	1	1492	6504	1622	1246	581	846	8699	2225	924	398	558	8336	4634	1622	846	2138	2220	2008	964	296	730	3677	1246	592	398
	2	964	1165	242	189	285	1124	5346	745	558	210	846	3287	3637	535	386	1003	242	341	231	170	1580	1205	341	296	253
	3	398	681	89	131	182	724	2356	489	148	170	398	1496	285	141	114	386	175	178	84	31	796	489	136	163	151
	4	200	124	87	96	89	221	1003	190	77	114	206	489	179	134	77	189	84	42	31	13	264	92	59	39	27
	5	136	59	69	62	67	126	231	114	31	56	163	231	165	77	49	119	37	24	18	11	139	46	22	23	24
	6	87	67	46	34	33	59	178	99	29	43	104	94	77	59	36	74	25	19	15	16	82	31	23	21	22
	8	43	34	20	18	18	27	48	22	24	20	59	45	35	26	24	38	18	15	15	14	38	19	17	17	16
	10	28	14	13	14	14	15	21	11	11	13	45	29	23	17	16	27	18	14	13	12	25	15	13	13	13
	12	18	14	12	11	12	11	11	9	9	10	32	18	18	15	13	17	13	11	11	11	17	13	11	12	12
	14	13	10	11	10	11	9	10	9	9	10	28	16	16	13	13	13	10	11	10	11	12	11	14	10	11
	16	11	10	10	10	10	9	9	9	10	9	22	14	13	13	14	11	10	10	11	10	11	10	11	10	10
	Avg	309	789	202	166	118	288	1628	357	166	96	223	1278	826	241	144	365	259	243	128	54	336	510	172	109	85

(Continued)

Table 4 (Concluded)

Station	Cycle	Base Sur-face	Base 1/4	Base Mid-depth	Base 3/4	Base Bot-tom	Plan 1 Sur-face	Plan 1 1/4	Plan 1 Mid-depth	Plan 1 3/4	Plan 1 Bot-tom
MBB	1	1665	6069	2877	1246	1879	604	8699	3779	1165	1287
	2	885	1165	885	885	547	1043	2792	1205	776	375
	3	512	745	547	285	242	558	1454	766	558	210
	4	179	409	242	185	161	274	604	375	253	200
	5	121	144	170	104	134	129	221	136	180	134
	6	92	96	89	77	56	62	165	96	67	47
	8	42	36	23	32	29	25	46	27	30	25
	10	28	15	16	17	15	15	15	16	16	17
	12	19	14	13	12	12	11	11	11	11	10
	14	13	11	11	11	11	9	10	11	10	9
	16	11	11	10	11	10	7	9	9	9	9
	Avg	324	792	444	261	282	249	1275	767	280	211
MBP	1										
	2										
	3										
	4										
	5										
	6										
	8										
	10										
	12										
	14										
	16										
	Avg										

Station	Cycle	Plan 3 Sur-face	Plan 3 1/4	Plan 3 Mid-depth	Plan 3 3/4	Plan 3 Bot-tom	Plan 4B Sur-face	Plan 4B 1/4	Plan 4B Mid-depth	Plan 4B 3/4	Plan 4B Bot-tom	Plan 5B Sur-face	Plan 5B 1/4	Plan 5B Mid-depth	Plan 5B 3/4	Plan 5B Bot-tom
MBB	1	626	8603	3416	501	964	1750	1454	1246	730	466	1538	4634	1622	455	489
	2	846	3944	1329	558	501	807	330	231	149	151	1370	1287	604	307	210
	3	409	885	432	352	163	352	139	134	74	41	501	231	134	106	124
	4	221	615	189	173	124	159	51	31	20	15	210	94	64	51	47
	5	168	253	122	96	59	124	26	16	12	11	124	39	30	27	24
	6	116	106	79	67	42	72	22	19	15	16	79	36	23	19	22
	8	59	42	36	36	26	38	18	17	14	14	41	24	18	15	16
	10	51	25	22	23	16	27	15	13	13	13	26	16	13	13	16
	12	33	19	17	15	13	17	12	13	11	11	19	13	12	12	14
	14	27	15	17	14	13	12	11	11	10	10	13	11	11	11	11
	16	23	13	13	13	13	11	10	10	11	10	11	11	10	11	10
	Avg	235	1320	516	168	176	306	190	158	96	69	358	582	230	93	89
MBP	1						964	1165	769	558	535	769		1496		924
	2						670	189	178	141	109	692		846		386
	3						319	94	56	51	38	296		352		182
	4						159	46	27	20	17	189		106		69
	5						116	28	15	12	11	124		49		30
	6						74	22	19	18	17	77		32		21
	8						42	16	16	16	14	42		23		18
	10						25	14	13	12	14	25		14		14
	12						15	11	11	12	11	18		12		12
	14						12	10	11	10	10	13		11		11
	16						11	13	11	10	11	10		11		10
	Avg						219	146	102	78	72	204		268		154

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Table 5

Low-Water Slack Dye Concentrations, ppb

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Sur-face	1/4	Mid-depth	3/4	Bot-tom	Sur-face	1/4	Mid-depth	3/4	Bot-tom	Sur-face	1/4	Mid-depth	3/4	Bot-tom	Sur-face	1/4	Mid-depth	3/4	Bot-tom	Sur-face	1/4	Mid-depth	3/4	Bot-tom
Dump	1			0					0					0					0					0		
	2			0					0					0					0					0		
	3			1					2					2					1					1		
	4			4					5					3					2					3		
	5			5					5					6					3					5		
	6			6					7					6					4					6		
	8			7					7					7					4					8		
	10			8					6					8					6					8		
	12			8					7					9					6					7		
	14			8					7					9					8					9		
	16			8					7					9					8					7		
	Avg			5					5					5					4					5		
Ocean	1	0				0	0				0	0				0	0				0	1				0
	2	178				28	285				111	111				5	210				19	570				32
	3	231				28	136				30	285				27	200				15	121				10
	4	77				11	49				9	192				9	114				11	59				9
	5	31				7	40				6	51				8	77				10	49				7
	6	26				7	30				6	37				7	54				5	40				6
	8	21				5	18				5	26				7	41				4	30				5
	10	20				5	17				5	25				8	28				7	13				9
	12	12				5	15				5	20				8	19				7	15				7
	14	12				4	8				5	19				9	15				7	12				7
	16	10				3	7				5	15				9	11				7	10				8
	Avg	56				9	55				17	71				9	70				8	84				9
TA	1	0		0		0	0		0		0	0		0		0	0		0		0	0		0		0
	2	67		1		2	169		19		0	179		3		1	210		1		3	210		87		1
	3	182		1		3	165		20		2	169		6		2	221		18		2	200		42		1
	4	141		2		3	111		15		4	165		3		2	178		28		2	156		27		1
	5	104		4		4	69		11		5	126		3		3	124		11		3	114		17		5
	6	74		12		5	41		10		3	94		11		3	89		11		3	77		9		7
	8	49		10		6	18		9		9	64		11		8	42		11		4	46		14		10
	10	31		10		8	12		9		7	46		11		10	29		10		7	39		13		8
	12	21		9		8	9		8		6	34		10		8	18		13		7	19		10		8
	14	15		10		8	6		8		7	30		10		8	12		10		9	13		10		8
	16	11		9		8	5		6		6	25		11		9	9		10		8	9		11		8
	Avg	63		6		5	55		10		4	85		7		5	85		11		4	80		22		5
ZA	1	1793		2		1	1		21		2	2		5		0	7		53		4	4		12		18
	2	375		165		3	179		119		11	179		101		10	221		169		92	200		189		46
	3	185		119		16	158		99		14	169		72		13	200		96		49	200		101		19
	4	146		66		11	101		59		10	163		47		4	178		56		35	158		25		5
	5	104		43		10	67		25		2	126		37		3	129		42		22	111		33		3
	6	77		42		11	43		28		6	96		37		8	87		40		8	79		24		8
	8	46		29		14	19		20		12	62		30		14	41		21		10	45		22		14
	10	26		20		11	11		14		11	46		23		14	27		19		12	28		19		13

(Continued)

(Sheet 1 of 10)

Table 5 (Continued)

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
2A	12	19		15		11	8		10		8	36		19		11	17		13		9	19		15		10
	14	14		12		10	6		12		10	31		15		11	11		10		10	13		11		10
	16	11		11		11	5		8		9	30		13		11	8		10		10	11		10		10
	Avg	254		48		10	54		38		9	85		36		9	84		48		24	79		42		14
2B	1	1580		1		1	1		12		1	1		13		1	2		35		3	1		8		1
	2	319		59		2	182		101		10	189		131		13	221		169		87	189		221		15
	3	194		111		6	153		92		3	169		107		33	200		99		33	200		74		4
	4	139		69		7	106		51		1	161		59		8	178		82		23	153		34		2
	5	104		40		6	67		29		2	121		48		6	99		34		3	111		31		3
	6	77		32		5	40		21		6	94		37		9	84		36		10	79		29		7
	8	49		27		9	18		15		9	62		29		11	42		19		10	44		21		11
	10	30		16		8	13		10		8	46		24		11	26		22		11	27		16		10
	12	19		14		9	9		9		7	36		21		11	16		12		9	18		13		8
	14	15		12		8	5		9		8	30		17		11	12		11		8	13		12		9
	16	12		11		8	4		7		8	24		15		10	10		10		8	9		11		10
	Avg	231		36		6	54		32		6	85		46		11	81		48		19	77		43		7
2C	1	1084		2		1	1		15		1	1		2		1	11		45		4	3		8		0
	2	264		46		1	169		175		9	189		170		13	221		210		87	200		274		82
	3	182		119		3	161		124		9	169		131		19	210		109		37	189		99		8
	4	141		64		8	99		64		6	161		69		7	180		79		22	153		31		2
	5	104		42		7	64		33		3	124		48		6	104		43		2	111		33		2
	6	82		30		5	41		19		3	94		36		4	87		37		8	77		26		5
	8	47		24		9	19		15		9	62		36		11	44		28		8	47		23		11
	10	26		16		9	11		11		8	46		30		11	26		20		12	27		17		9
	12	19		13		8	9		9		7	36		20		10	18		14		11	19		14		9
	14	14		12		8	6		8		8	30		18		10	11		12		10	13		11		9
	16	11		11		8	5		6		6	24		15		11	9		10		8	10		9		9
	Avg	179		34		6	53		44		6	85		52		9	84		55		19	77		50		13
OA	1	1665		94		8	1		2792		1750	7		1205		924	4		443		1965	2		330		1538
	2	210		175		146	179		375		242	189		964		285	231		330		165	210		432		264
	3	192		185		151	161		178		178	169		161		141	200		116		41	189		141		126
	4	141		84		59	104		158		69	158		169		64	173		82		36	153		37		38
	5	104		56		47	62		49		33	124		72		55	131		44		14	109		36		30
	6	82		36		28	38		30		33	94		67		30	84		41		11	77		16		17
	8	47		28		16	19		19		17	62		41		21	42		20		12	44		23		16
	10	30		17		13	11		11		10	46		26		17	27		15		12	29		17		12
	12	19		15		12	8		9		9	36		19		15	16		12		11	18		13		11
	14	14		11		11	6		8		9	30		17		11	12		10		11	13		11		10
	16	11		10		10	5		7		7	26		11		11	9		8		9	9		10		10
	Avg	229		65		46	54		331		214	86		250		143	84		102		208	78		97		188
OB	1	1454		11		5	3		3036		2113	10		4355		1412	3		114		2138	1		1538		131
	2	242		121		96	169		169		126	189		692		375	221		375		330	200		221		179
	3	185		146		129	153		106		82	169		274		169	189		99		69	179		126		64
	4	139		94		41	96		59		39	161		153		96	173		69		31	153		32		21
	5	101		56		21	62		35		30	126		82		47	131		49		14	111		38		11
	6	77		36		17	36		19		16	94		72		37	87		33		10	77		22		11

(Continued)

Table 5 (Continued)

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
OA	8	47		32		11	18		16		15	64		41		25	42		21		11	45		17		15
	10	30		17		11	11		11		10	46		26		16	26		17		11	28		17		11
	12	20		14		11	9		9		9	36		18		13	17		11		11	18		13		11
	14	14		11		10	5		8		8	30		17		12	12		10		11	13		11		10
	16	9		11		9	4		5		8	25		13		11	8		12		9	9		9		10
	Avg	211		50		33	51		316		223	86		522		201	83		74		240	76		186		43
OAA	1	854		274		36	35		3287		8699	179		1580		7080	37		4494		6214	18		4634		8699
	2	443		264		221	210		2747		512	221		1870		210	285		713		189	285		1084		210
	3	185		253		84	175		386		136	179		375		96	210		466		72	200		386		99
	4	136		144		31	106		231		77	158		189		72	161		161		23	151		200		87
	5	96		109		26	67		84		49	121		121		52	116		79		11	104		92		20
	6	77		67		17	39		50		30	89		74		18	82		49		8	77		50		15
	8	45		40		16	20		23		18	59		50		25	38		31		11	44		30		15
	10	29		23		13	12		12		12	43		33		17	24		21		11	31		21		12
	12	19		17		12	8		10		10	36		26		15	15		13		10	18		14		11
	14	14		14		11	7		8		8	29		20		13	11		11		9	13		12		10
	16	11		10		10	5		7		8	23		17		12	9		9		9	9		11		10
	Avg	174		110		43	62		622		869	103		396		692	90		550		597	86		594		835
OBA	1	3092		1370		1084	178		6793		7223	285		7366		4080	221		6937		6214	144		6359		8699
	2	1084		730		570	274		2443		264	330		5346		144	409		1836		101	409		3944		51
	3	364		724		35	179		547		51	242		1965		49	221		489		8	221		1084		34
	4	148		558		18	136		319		21	178		670		34	170		169		7	153		386		37
	5	106		180		17	79		101		12	134		274		10	119		94		8	109		168		7
	6	77		106		16	45		54		10	92		170		18	79		54		8	79		67		13
	8	46		47		14	21		30		19	59		62		18	38		26		10	42		30		15
	10	29		26		13	12		13		15	42		29		15	24		16		10	25		19		13
	12	19		16		12	9		10		10	34		21		13	16		13		10	17		14		13
	14	13		12		10	7		8		11	30		16		13	11		11		9	12		11		10
	16	11		10		10	5		7		9	22		14		11	9		10		9	11		11		10
	Avg	454		344		164	86		939		695	132		1448		400	120		878		581	110		1099		809
OBB	1	547		83		59	2		221		5634	0		13		59	2		156		2747	0		23		489
	2	296		264		221	189		745		570	200		189		200	242		242		398	221		231		352
	3	194		194		129	158		169		210	169		179		169	200		210		200	179		200		221
	4	134		144		114	101		109		131	163		151		121	168		144		153	148		151		119
	5	96		92		55	59		56		82	124		114		89	116		104		92	109		101		74
	6	74		74		52	37		34		39	90		87		62	79		74		62	74		74		43
	8	44		44		35	18		21		20	62		56		51	39		38		33	46		41		32
	10	30		29		22	12		13		12	45		43		40	24		26		23	26		26		21
	12	19		19		17	8		9		9	32		34		26	16		18		16	18		17		15
	14	13		14		12	6		9		8	30		28		23	11		11		12	12		12		11
	16	11		11		10	5		7		7	23		24		20	9		8		10	11		10		10
	Avg	133		88		66	54		127		611	85		83		78	82		94		341	77		81		126
OBC	1	285		79		72	2		4		3416	2		30		3161	2		242		6359	1		148		6937
	2	221		285		170	179		231		524	210		221		703	221		319		558	210		285		581
	3	190		201		148	151		175		189	179		179		264	189		221		169	189		210		242
	4	141		144		99	99		106		136	158		151		173	165		146		89	151		146		84

(Continued)

Table 5 (Continued)

Station	Cycle	Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
		Surface	1/4	Mid-depth	1/4	Bottom	Surface	1/4	Mid-depth	1/4	Bottom	Surface	1/4	Mid-depth	1/4	Bottom	Surface	1/4	Mid-depth	1/4	Bottom	Surface	1/4	Mid-depth	1/4	Bottom
OBC	5	99		92		69	56		67		72	121		109		104	114		99		35	106		94		40
	6	77		72		47	36		38		39	94		79		56	79		69		32	72		67		23
	8	44		44		29	18		19		20	62		54		37	39		35		17	43		47		21
	10	30		26		15	13		12		12	45		42		25	24		25		16	30		25		14
	12	19		18		13	9		9		9	35		33		18	16		16		12	18		18		12
	14	13		14		11	6		5		9	30		27		16	11		11		10	13		13		11
	16	10		11		10	4		4		7	24		22		15	8		9		10	10		10		10
	Avg	103		90		62	52		61		403	87		86		416	79		108		664	77		97		725
1AA	1	0		0		0	3		0		0	0		1		0	386		54		124	0		0		0
	2	231		409		319	210		274		319	189		210		231	210		352		455	210		296		398
	3	180		210		179	156		179		189	109		169		192	179		210		221	175		200		210
	4	144		151		111	101		116		109	158		156		129	156		148		121	139		139		119
	5	104		99		84	62		72		64	111		114		92	109		99		74	101		96		69
	6	79		69		51	33		41		36	89		87		69	74		69		51	72		64		46
	8	45		42		34	19		20		20	62		56		46	38		35		28	43		41		33
	10	28		26		21	12		11		13	45		45		36	23		21		19	26		24		20
	12	18		17		18	9		10		11	36		34		28	15		14		14	17		17		16
	14	13		14		13	8		8		8	30		28		22	10		10		11	11		15		11
	16	10		11		11	5		4		6	26		23		20	7		8		9	9		10		10
	Avg	77		95		76	56		67		70	83		84		79	110		93		102	73		82		85
1AB	1	0		0		0	0		1		1	0		0		1	169		23		8	0		0		0
	2	221		409		341	264		296		179	179		231		210	210		364		338	364		296		200
	3	180		210		190	190		200		146	149		169		185	159		221		179	175		210		170
	4	148		151		106	106		119		99	158		151		119	156		156		109	101		139		141
	5	106		101		87	56		72		64	121		106		77	106		101		64	56		94		101
	6	79		69		49	34		40		37	92		82		59	77		67		46	37		67		69
	8	46		41		34	20		20		17	62		54		43	37		35		26	28		48		44
	10	29		26		20	13		12		13	47		41		31	23		22		18	17		24		26
	12	19		17		14	11		9		9	36		34		25	14		15		13	13		17		18
	14	14		13		13	9		8		7	30		27		22	10		11		10	11		12		12
	16	10		11		10	8		7		5	24		22		19	8		8		9	13		10		9
	Avg	77		95		79	65		71		52	82		83		72	88		93		75	74		83		72
1AC	1	0		0		0	1		1		3	0		0		0	79		31		7	0		0		0
	2	231		398		253	189		253		296	179		231		221	231		307		398	210		242		375
	3	190		200		189	161		185		169	149		169		192	159		179		169	189		189		200
	4	141		151		116	106		116		109	156		148		119	161		163		129	136		141		116
	5	106		106		92	64		74		59	139		106		77	109		109		74	101		99		72
	6	79		74		59	38		42		34	92		79		56	77		69		51	77		77		49
	8	45		44		35	18		20		20	62		56		44	39		37		28	42		40		31
	10	28		26		21	11		13		13	46		40		30	23		23		19	26		25		20
	12	19		18		15	9		10		11	37		33		31	14		14		13	17		19		19
	14	13		13		12	8		8		9	30		25		21	10		10		11	12		12		12
	16	10		11		11	5		5		8	24		22		19	7		8		10	9		9		10
	Avg	78		95		73	55		66		66	83		83		74	83		86		83	74		78		82

(Continued)

Table 5 (Continued)

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
2AA	1	0		0		0	1		0		2	2		0		0	72		159		20	0		0		0
	2	185		296		501	156		285		386	192		242		264	169		285		519	178		296		421
	3	156		210		231	116		187		210	175		169		169	159		210		231	153		200		221
	4	139		148		153	92		109		111	153		153		129	148		153		134	148		141		126
	5	101		101		89	54		69		67	114		87		89	106		106		79	101		101		72
	6	79		77		62	36		41		36	92		87		62	74		74		54	74		67		46
	8	43		43		37	18		19		21	67		59		46	37		35		30	42		42		33
	10	27		27		23	12		16		14	47		45		36	22		23		20	42		27		21
	12	18		18		17	9		9		11	37		35		27	15		14		14	17		17		15
	14	13		13		14	8		8		9	31		28		22	10		10		11	11		12		12
	16	10		11		11	6		5		8	25		23		19	7		8		10	8		10		10
	Avg	70		86		103	46		68		80	85		84		78	74		98		102	70		83		89
3A	1	0		0		0	0		0		0	0		0		0	352		178		62	0		0		0
	2	144		296		547	136		296		409	192		253		307	169		285		119	158		296		455
	3	146		189		221	116		187		210	180		179		169	159		200		242	136		200		221
	4	134		151		139	87		111		111	151		156		124	146		158		124	129		144		121
	5	104		102		84	51		67		59	111		114		84	106		101		72	96		77		74
	6	77		74		56	35		42		36	92		89		62	74		74		51	72		69		46
	8	43		42		35	18		18		20	62		59		46	35		35		28	43		42		31
	10	27		37		22	12		11		13	47		42		32	21		22		21	26		26		21
	12	17		18		15	9		9		9	39		34		26	15		14		13	17		17		15
	14	13		13		13	6		6		9	30		26		20	9		9		10	12		11		11
	16	10		10		10	4		4		6	25		23		20	6		7		9	8		8		10
	Avg	65		84		104	43		68		80	84		89		81	99		98		68	63		81		91
5A	1	0		0		0	0		0		0	0		0		0	0		0		0	0		0		0
	2	30		231		592	27		274		558	87		210		352	101		351		659	77		274		547
	3	111		210		274	61		185		242	134		179		200	131		200		242	116		210		231
	4	94		146		163	56		119		121	121		156		173	109		156		141	96		134		126
	5	82		114		101	34		67		74	96		116		111	82		101		89	82		96		79
	6	62		79		72	25		36		38	84		89		79	59		69		56	61		69		46
	8	34		42		39	16		20		21	56		59		51	30		38		32	33		38		31
	10	23		28		23	13		13		13	44		43		37	19		22		22	22		23		19
	12	16		17		16	9		9		11	36		34		30	10		13		14	13		15		15
	14	11		12		13	9		8		9	30		29		24	8		9		12	9		11		11
	16	8		10		10	5		7		8	23		23		21	5		7		8	5		8		10
	Avg	43		81		118	23		67		100	65		85		98	50		88		116	47		80		101
7B	1	0		0		0	0		0		1	0		0		0	0		0		0	0		0		0
	2	7		200		92	5		61		59	28		106		163	26		87		169	19		119		99
	3	41		156		231	21		156		92	69		163		159	49		136		242	51		156		134
	4	42		146		156	18		79		64	77		136		153	59		116		161	54		119		114
	5	38		99		101	20		46		42	77		106		124	37		99		114	46		99		82
	6	26		74		77	14		27		28	60		84		96	31		64		79	36		62		47
	8	21		41		44	11		16		19	49		56		62	20		34		39	24		36		40
	10	14		27		27	8		10		11	40		42		45	11		19		21	15		23		23
	12	10		18		17	7		8		9	32		34		36	7		11		13	8		14		13
	14	8		11		12	5		5		8	26		29		29	5		7		9	5		10		9
	16	5		9		9	4		4		6	22		23		23	3		5		6	4		7		8
	Avg	19		71		70	10		37		31	44		71		81	23		53		78	24		59		52

(Continued)

Table 5 (Continued)

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
9AB	1	0		0		0	0		0		0	0		0		0	0		0		0	0		0		0
	2	0		4		626	129		104		1003	19		69		670	33		57		604	20		341		964
	3	59		131		352	79		139		443	96		173		364	89		189		200	84		253		398
	4	77		134		189	59		94		210	109		153		200	121		180		189	87		180		210
	5	62		96		109	36		51		200	101		119		136	77		101		111	67		104		116
	6	46		74		89	23		30		119	82		92		101	54		69		72	51		69		77
	8	30		41		46	15		16		64	56		62		54	28		36		41	23		40		41
	10	18		24		25	9		11		25	44		46		40	16		20		23	16		24		25
	12	13		16		18	7		7		15	35		24		31	9		11		15	10		14		16
	14	9		13		13	5		6		9	29		29		26	6		8		11	6		9		10
	16	7		9		10	3		5		8	21		24		22	4		5		8	5		8		9
	Avg	29		49		134	33		42		191	54		72		149	40		61		116	34		95		170
9B	1	0		0		0	0		0		0	0		0		0	0		0		2	0		0		1
	2	1		36		352	3		6		231	4		23		179	1		4		264	3		8		341
	3	28		49		264	8		37		221	33		69		169	21		67		221	23		50		285
	4	69		82		189	26		26		131	47		64		134	30		67		194	32		54		166
	5	41		56		124	33		22		84	57		69		136	34		57		114	31		47		116
	6	41		49		84	26		16		45	56		62		87	21		31		77	25		39		84
	8	37		26		47	11		13		19	43		48		57	13		15		36	15		23		43
	10	15		18		30	8		9		12	37		40		45	8		10		21	9		12		28
	12	11		11		18	6		6		8	32		31		36	6		8		13	5		9		16
	14	9		9		13	5		5		6	27		27		31	4		4		10	3		6		11
	16	6		6		10	3		4		5	22		21		23	2		3		5	2		2		8
	Avg	23		31		103	12		13		69	33		41		82	13		24		87	13		23		100
10A	1	0		0		0	0		0		0	0		0		0	0		0		0	0		0		0
	2	0		0		18	0		0		99	0		0		49	0		2		34	0		1		179
	3	5		7		84	8		10		121	29		38		96	41		20		111	16		26		182
	4	25		31		101	16		17		92	55		59		89	37		48		111	36		49		121
	5	27		35		99	18		23		40	62		64		84	35		41		74	38		46		72
	6	23		30		57	14		16		36	62		62		77	29		32		51	30		36		72
	8	18		18		33	12		13		16	52		51		56	15		18		25	19		22		36
	10	11		12		22	8		9		11	40		40		43	10		11		13	10		11		21
	12	9		9		13	6		5		8	33		33		35	7		7		9	8		8		16
	14	7		7		10	5		5		5	28		27		29	4		5		6	5		5		9
	16	7		6		8	3		3		4	22		24		24	3		3		4	2		3		6
	Avg	12		14		40	8		9		39	35		36		53	16		17		40	15		19		65
1WB	1	0				0	0				0	0				0	0				0	0				0
	2	0				0	104				111	148				146	180				170	0				0
	3	32				33	104				82	158				156	173				170	35				31
	4	57				60	67				72	131				131	126				124	57				60
	5	72				72	39				46	101				101	99				96	74				72
	6	74				72	26				30	87				87	67				67	74				79
	8	64				67	15				16	62				59	33				33	69				69
	10	56				56	11				11	49				49	21				20	64				64
	12	46				49	10				10	36				37	11				12	49				51
	14	39				41	8				7	29				30	8				8	41				39
	16	35				35	5				6	36				30	5				5	36				35
	Avg	43				44	35				36	76				75	66				64	45				45

(Continued)

Table 5 (Continued)

Station	Cycle	Base Surface	Base 1/4	Base Mid-depth	Base 3/4	Base Bottom	Plan 1 Surface	Plan 1 1/4	Plan 1 Mid-depth	Plan 1 3/4	Plan 1 Bottom
IWB	1	0				0	0				0
	2	0				0	0				0
	3	23				1	5				1
	4	45				3	13				2
	5	57				7	25				3
	6	56				9	30				16
	8	50				33	24				24
	10	38				30	21				17
	12	29				27	21				18
	14	22				24	17				15
	16	17				19	11				11
	Avg	31				14	15				10
NBA	1	1750	2225	3287	7507	7927	375	807	2113	8699	8699
	2	1370	1622	2792	4217	1007	443	1043	1412	924	210
	3	386	524	659	1836	524	570	440	613	432	200
	4	221	264	319	659	200	285	231	330	307	153
	5	156	163	161	274	169	179	131	158	200	126
	6	99	99	101	231	124	94	77	106	146	96
	8	56	47	46	79	56	39	28	31	47	52
	10	30	30	29	38	36	19	16	22	29	26
	12	21	18	17	16	18	12	11	12	15	18
	14	15	15	14	14	14	9	9	9	10	11
	16	12	11	14	11	11	7	7	7	9	10
	Avg	374	456	676	1353	917	185	255	438	983	873
NBB	1	2356	2704	5202	7366	7366	422	730	5779	8699	8699
	2	924	2008	4634	2330	604	755	1329	2138	3287	221
	3	253	330	766	2095	221	409	466	766	1124	210
	4	179	210	330	1454	119	231	231	274	432	101
	5	158	170	179	285	84	153	136	156	341	99
	6	92	96	104	189	34	79	69	67	106	92
	8	47	47	44	64	29	30	26	27	41	52
	10	29	26	25	24	19	16	14	15	20	19
	12	19	20	15	15	19	12	11	11	13	13
	14	14	14	14	11	13	8	9	10	10	10
	16	11	11	11	11	11	7	7	7	9	9
	Avg	371	512	1029	1259	774	194	275	841	1280	866
NBC	1	1246	2530	4494	7223	7366	547	1370	4080	8699	8699
	2	776	1750	4217	3416	398	570	1538	2834	7223	307
	3	221	466	745	2616	242	330	478	724	547	189
	4	156	231	296	1084	111	185	274	352	455	67
	5	109	146	170	489	52	94	161	151	180	67
	6	79	99	109	319	23	51	77	92	92	52
	8	37	37	36	131	17	25	32	31	36	24
	10	27	26	25	39	17	13	15	15	18	16
	12	19	18	17	16	14	10	11	11	12	12
	14	14	14	12	14	12	8	10	10	11	9
	16	14	12	11	11	11	7	7	9	9	8
	Avg	245	484	921	1396	751	167	361	755	1571	859

Station	Cycle	Plan 3 Surface	Plan 3 1/4	Plan 3 Mid-depth	Plan 3 3/4	Plan 3 Bottom	Plan 4B Surface	Plan 4B 1/4	Plan 4B Mid-depth	Plan 4B 3/4	Plan 4B Bottom	Plan 5B Surface	Plan 5B 1/4	Plan 5B Mid-depth	Plan 5B 3/4	Plan 5B Bottom
IWB	1	0				0	0				0	0				0
	2	0				0	0				0	0				0
	3	30				3	18				2	41				4
	4	38				6	27				5	69				11
	5	57				16	56				11	72				24
	6	59				15	43				14	64				19
	8	54				32	39				22	51				33
	10	49				36	37				35	37				33
	12	40				32	30				32	28				28
	14	33				31	26				32	20				25
	16	30				26	22				26	16				19
	Avg	35				18	27				16	36				18
NBA	1	581	1084	3944	8699	8699	626	1043	2913	8336	8603	512	659	4775	8699	8699
	2	846	1454	2616	1750	330	713	846	1965	1836	296	769	1084	2616	501	524
	3	724	681	1370	769	274	501	398	692	364	169	558	455	964	421	264
	4	517	386	806	648	253	274	189	307	119	69	242	210	398	221	200
	5	307	179	285	398	189	180	124	182	49	35	151	126	146	101	96
	6	159	131	221	231	136	119	77	119	37	20	99	79	94	62	69
	8	92	67	111	111	87	54	45	50	16	15	51	43	42	30	38
	10	56	42	62	55	59	36	28	31	15	14	31	26	26	20	23
	12	35	30	31	41	40	22	17	17	12	13	22	19	18	14	18
	14	30	24	24	23	26	20	13	14	11	11	16	14	13	11	13
	16	26	21	19	15	18	11	11	12	11	11	11	11	12	11	11
	Avg	307	373	863	1158	919	232	254	573	982	841	224	248	828	917	905
NBB	1	455	1287	4775	8699	8699	615	1124	3944	8065	8471	769	1043	5346	8699	8699
	2	730	2095	2913	2220	455	670	964	1165	1665	421	724	1205	2913	2747	341
	3	501	730	1922	713	221	421	375	501	964	131	352	489	1538	1165	274
	4	341	341	713	296	153	231	169	189	180	43	210	221	398	455	146
	5	169	179	443	253	84	170	111	144	101	18	146	136	221	153	59
	6	139	129	200	169	89	106	74	64	82	15	92	89	151	141	47
	8	67	64	111	54	52	60	42	37	21	14	49	43	45	30	15
	10	46	38	43	46	39	36	28	26	13	12	29	28	26	17	18
	12	32	28	27	21	36	21	16	15	14	11	21	20	18	15	14
	14	28	23	23	16	21	15	13	14	13	11	14	14	13	11	12
	16	23	19	18	13	16	11	11	13	11	10	10	11	13	11	11
	Avg	230	448	1017	1136	897	214	266	556	1012	832	220	300	971	1222	876
NBC	1	730	1329	6214	8699	8699	745	1454	5059	8336	8603	807	1246	2557	8699	8699
	2	807	1965	3546	7927	524	535	885	1412	2747	296	478	1165	2269	2095	274
	3	524	924	1370	2834	274	319	432	512	724	77	242	278	769	846	187
	4	307	443	604	776	187	179	179	189	274	20	169	231	330	352	99
	5	178	221	274	375	29	121	124	111	89	10	119	129	153	94	32
	6	106	146	182	296	72	79	84	74	84	13	79	87	87	41	31
	8	72	67	74	89	34	45	44	38	21	15	47	42	40	26	19
	10	48	44	38	37	35	29	30	25	13	13	28	28	25	16	15
	12	34	29	25	23	18	17	17	15	15	11	19	19	20	17	14
	14	30	23	21	16	16	15	14	13	12	10	13	15	13	13	11
	16	23	19	19	14	13	11	11	11	11	11	11	11	11	12	11
	Avg	260	474	1124	1917	900	190	298	678	1121	825	183	296	570	1110	854

(Continued)

Table 5 (Continued)

Station	Cycle	Base Surface	Base 1/4	Base Mid-depth	Base 3/4	Base Bottom	Plan 1 Surface	Plan 1 1/4	Plan 1 Mid-depth	Plan 1 3/4	Plan 1 Bottom	Plan 3 Surface	Plan 3 1/4	Plan 3 Mid-depth	Plan 3 3/4	Plan 3 Bottom	Plan 4B Surface	Plan 4B 1/4	Plan 4B Mid-depth	Plan 4B 3/4	Plan 4B Bottom	Plan 5B Surface	Plan 5B 1/4	Plan 5B Mid-depth	Plan 5B 3/4	Plan 5B Bottom
MBD	1	615	1496	3416	7648	7788	330	501	3036	8699	8699	501	466	3944	8699	8699	807	924	4917	8201	8471	769	846	2008	8699	8699
	2	604	924	2913	1965	581	681	1084	1412	2225	264	730	1124	2051	4355	547	670	885	885	769	341	615	885	1205	2113	512
	3	221	264	455	1538	386	242	330	432	409	169	307	421	964	1205	242	264	285	341	341	136	264	352	455	924	169
	4	158	173	341	581	169	170	189	242	221	131	189	210	443	375	144	190	185	182	124	34	169	179	200	141	74
	5	111	116	136	210	96	89	104	124	179	111	134	192	169	189	79	116	101	104	46	23	111	109	124	151	32
	6	87	82	87	119	35	49	51	59	99	41	94	121	134	179	42	77	74	67	38	15	79	74	74	87	24
	8	48	46	42	72	18	23	29	26	36	20	59	59	64	84	28	42	40	36	21	14	42	45	39	32	21
	10	29	28	26	37	14	14	14	14	17	14	42	31	38	38	16	29	25	24	12	12	31	24	25	18	13
	12	19	18	16	16	13	10	10	11	12	11	31	30	29	21	14	15	16	16	13	11	20	18	18	13	13
	14	14	13	14	13	12	8	8	9	10	10	30	24	23	17	13	14	13	13	11	12	14	13	13	12	12
	16	13	12	11	11	11	9	8	8	9	9	22	21	19	13	11	15	12	11	11	10	11	11	11	11	11
	Avg	174	288	678	1110	829	148	212	488	1083	862	194	245	716	1380	894	204	233	600	872	825	193	232	379	1109	871
MBE	1	1538	1750	2747	7366	7788	296	307	4355	8699	8699	455	330	6504	8699	8699	615	455	4494	8336	8201	807	512	5346	8699	8699
	2	786	1084	964	730	512	637	924	1124	501	231	1043	1412	1965	807	398	735	769	885	478	149	724	846	924	924	253
	3	221	285	432	386	231	296	352	421	341	136	466	489	924	398	156	296	296	330	187	69	307	307	386	231	141
	4	165	169	398	296	111	179	169	169	200	114	210	231	375	163	87	179	179	169	64	25	200	179	189	109	64
	5	116	124	129	104	92	109	104	111	153	96	158	151	169	104	64	114	111	106	25	13	116	114	106	54	25
	6	84	87	89	51	40	56	54	56	72	46	104	104	124	69	34	82	77	74	22	11	79	77	87	28	20
	8	37	36	35	24	20	26	25	25	26	21	62	59	64	39	25	42	41	39	15	14	45	42	41	26	19
	10	30	28	29	21	15	14	14	14	18	14	44	40	38	21	16	28	26	26	12	12	28	27	26	15	13
	12	20	19	19	18	13	11	10	10	11	10	31	30	30	18	15	17	16	17	11	11	20	18	18	13	12
	14	14	13	14	12	12	8	8	8	10	10	25	24	20	13	14	14	13	14	11	11	13	14	14	11	10
	16	13	12	15	11	10	9	7	8	9	9	22	23	20	12	12	10	12	12	11	10	11	11	11	12	11
	Avg	275	328	443	820	804	149	179	573	913	853	238	263	930	940	865	194	181	561	834	775	214	195	650	920	842
MBF	1	1412	2792	6793	7788	7927	2486	3416	8471	8699	8699	558	3036	8336	8699	8699	807	2225	7224	8471	8201	455	1922	5059	8699	8699
	2	846	2530	5346	1836	924	466	1329	2913	5059	466	398	1965	5634	1003	964	581	1496	2399	1922	547	501	1246	2791	4080	570
	3	364	885	846	443	169	225	432	1003	964	210	253	524	1665	319	274	274	296	489	524	79	364	489	692	924	221
	4	200	179	231	330	121	156	231	398	330	126	192	221	769	185	109	169	180	189	126	20	179	200	398	330	96
	5	124	146	165	221	56	89	104	168	179	62	134	185	296	89	94	126	96	99	48	9	131	114	134	136	51
	6	121	94	101	79	21	49	61	96	109	64	94	124	200	64	67	87	67	67	48	12	92	82	77	82	35
	8	52	47	45	52	18	25	29	33	36	28	62	64	77	34	48	49	39	34	27	13	48	42	41	40	21
	10	31	26	25	19	15	13	14	17	21	16	46	43	41	23	26	31	25	23	13	13	31	27	23	17	16
	12	22	19	18	13	13	11	11	11	15	14	36	30	29	17	23	17	16	15	14	13	21	19	18	13	16
	14	15	14	13	11	11	12	8	10	11	10	30	25	23	15	17	13	13	14	11	11	15	13	15	12	12
	16	13	11	11	11	11	6	7	8	9	10	23	21	17	13	15	11	10	11	11	11	11	11	11	11	11
	Avg	291	613	1236	982	844	322	513	1193	1403	882	166	567	1553	951	940	197	406	960	1020	812	168	379	842	1304	886
MBG	1	570	2443	5924	7507	7788	604	1003	7507	8699	8699	924	1287	7366	8699	8699	615	1665	5924	8471	8336	735	1538	7366	8699	8699
	2	253	885	5924	2442	648	604	846	2747	1879	175	807	1370	5490	2312	432	524	846	1496	2920	242	547	885	2443	1622	179
	3	210	352	786	1454	169	221	285	776	285	59	253	352	1879	2008	109	242	285	558	398	38	253	352	846	466	131
	4	156	189	443	558	84	163	179	535	189	59	169	200	786	806	74	169	159	231	116	13	169	189	341	231	84
	5	109	124	179	443	41	87	101	221	126	51	144	151	364	296	37	114	114	124	55	7	114	106	165	69	15
	6	82	92	111	231	18	46	56	94	69	26	92	101	169	179	15	79	72	69	35	14	79	74	92	36	29
	8	36	38	35	38	15	23	25	35	25	18	56	56	79	54	24	43	39	37	17	15	43	42	40	23	15
	10	30	27	24	21	14	14	14	18	15	16	43	38	42	33	21	29	26	24	12	12	28	26	25	15	13
	12	20	18	18	15	11	10	11	11	11	10	31	29	25	17	15	16	15	15	13	11	20	18	18	13	12
	14	15	14	14	13	11	8	7	9	11	10	28	25	21	15	13	13	13	13	11	10	15	14	13	12	11
	16	12	11	12	11	11	6	8	8	8	9	22	21	16	14	12	11	11	11	15	10	10	11	11	11	11
	Avg	136	381	1225	1157	801	262	230	1087	1029	830	234	330	1476	1312	859	169	295	773	1097	792	183	296	1033	1018	836

(Continued)

Table 5 (Continued)

		Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Station	Cycle	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom	Surface	1/4	Mid-depth	3/4	Bottom
MBH	1	1165	2225	6648	7788	7927	352	885	4773	8699	8699	558	1003	7507	8699	8699	615	1165	6937	8471	7648	786	1043	6504	8699	8699
	2	964	1370	3036	1922	558	524	1287	1454	1879	231	730	1165	2138	1287	478	637	885	2008	1205	386	703	1084	1622	1205	319
	3	330	443	547	443	210	221	409	501	615	124	330	489	769	432	170	274	319	432	341	62	296	455	604	547	178
	4	200	221	221	319	111	161	221	253	307	62	210	285	421	274	64	169	169	189	116	25	179	242	274	141	67
	5	148	144	134	200	51	89	139	134	242	46	192	149	200	189	44	126	106	111	50	11	119	139	148	72	24
	6	99	87	92	79	28	56	69	67	94	32	104	116	144	99	29	79	69	62	26	16	82	87	99	26	21
	8	40	37	33	23	18	24	28	30	25	20	64	62	64	32	24	47	40	36	17	14	46	43	43	22	18
	10	29	28	24	18	14	14	16	17	16	12	44	43	36	30	17	28	27	24	12	12	26	28	23	16	14
	12	21	18	17	13	12	11	11	11	12	11	32	30	23	17	14	17	16	16	13	11	21	21	17	13	12
	14	15	15	13	14	13	8	10	9	11	10	35	26	21	14	12	13	13	13	11	11	15	15	14	12	11
	16	12	11	12	13	11	6	7	7	9	9	21	20	17	13	12	11	10	11	11	10	11	11	11	11	12
	Avg	275	418	980	985	814	133	280	660	1083	841	211	308	1031	1008	869	183	256	894	934	746	208	288	851	979	852
MBJ	1	1665	1879	7927	7507	7788	210	231	5924	8699	8699	535	512	7788	8699	8699	592	846	3416	8336	8064	592	443	4634	8699	8699
	2	776	1084	1580	1750	626	524	730	1043	2573	274	846	1205	1836	1165	353	670	769	885	1412	210	713	885	1003	1665	200
	3	274	330	466	1003	221	331	341	409	1246	182	501	538	964	466	191	409	352	364	210	62	341	352	455	296	151
	4	169	179	231	415	148	179	169	274	581	99	253	296	386	210	82	231	169	169	92	26	200	210	210	121	64
	5	126	121	170	210	77	116	114	116	274	74	159	159	200	136	64	136	114	106	30	11	119	111	136	54	29
	6	87	87	96	67	38	74	59	54	151	32	121	121	124	89	32	84	74	77	27	11	89	79	79	28	21
	8	39	36	35	27	19	30	28	26	50	22	67	64	62	37	23	52	42	38	17	14	47	42	52	20	21
	10	30	27	27	20	15	16	14	15	20	14	45	42	41	22	15	29	28	26	13	12	28	28	26	16	14
	12	20	18	18	14	13	11	13	11	13	12	35	30	29	15	13	18	16	18	12	11	21	19	18	14	12
	14	14	14	13	12	11	8	10	9	10	10	27	24	26	14	13	13	15	14	11	10	13	14	14	12	11
	16	12	12	11	11	10	7	7	9	8	9	22	20	23	12	12	11	10	11	10	10	11	11	11	11	11
	Avg	292	344	961	1003	815	137	156	717	1239	857	237	274	1044	988	863	204	221	466	925	767	198	199	603	994	839
MBK	1	1205	3287	7366	7648	7366	2312	4355	8699	8699	8699	769	5346	8699	8699	8699	1043	2269	7507	8471	7927	807	1665	7080	8699	8699
	2	964	2573	2008	730	537	524	1412	3036	1287	364	581	1580	7081	1793	581	615	1329	769	2187	466	547	924	3416	1205	179
	3	443	703	1124	364	96	231	478	1124	524	111	274	570	1538	581	180	285	352	703	352	56	375	501	807	386	92
	4	221	189	637	158	35	173	253	341	274	72	192	221	807	330	54	169	189	210	121	6	210	242	421	159	56
	5	139	163	274	62	33	99	146	253	111	49	136	173	274	169	27	124	121	111	36	2	136	136	151	56	18
	6	101	77	124	42	25	56	89	96	59	28	94	106	158	84	23	84	72	72	24	10	84	74	92	38	21
	8	52	46	52	36	21	25	30	36	26	17	59	56	69	55	22	47	42	32	16	12	47	42	38	22	18
	10	30	27	25	16	15	14	16	19	15	13	47	40	33	31	15	31	27	23	12	12	28	27	24	15	13
	12	20	21	17	15	18	11	11	12	14	12	34	30	23	20	16	18	16	15	13	17	20	20	18	14	13
	14	15	14	12	11	11	9	9	9	10	9	28	25	22	14	12	13	14	13	11	10	15	14	13	13	11
	16	11	11	12	11	10	7	7	8	8	9	23	20	15	13	12	11	10	11	11	10	11	11	11	11	10
	Avg	291	646	1059	827	742	315	619	1239	1002	853	203	742	1702	1072	876	222	404	861	1023	775	207	332	1097	965	830
MBL	1	964	2225	5635	7507	7223	713	2913	8064	8699	8699	769	2573	7788	8699	8699	924	1454	5634	8336	6793	455	1922	6359	8699	8699
	2	885	1043	4355	2008	466	512	780	2530	964	189	604	1329	4080	3810	330	615	846	1750	1879	169	501	1003	2443	1084	169
	3	253	386	885	443	161	296	648	1580	581	124	478	846	1707	535	190	330	466	786	307	23	253	512	846	375	126
	4	170	242	512	221	67	179	296	807	296	94	253	386	964	210	96	179	231	274	101	7	169	285	432	119	49
	5	134	156	253	139	62	96	190	285	159	67	149	210	375	185	64	129	156	148	57	5	119	151	156	51	21
	6	87	89	163	89	30	59	92	131	89	46	111	141	169	84	32	87	92	84	23	11	84	94	92	26	19
	8	50	47	47	37	21	25	33	37	24	20	64	67	82	42	26	46	47	42	16	13	47	47	45	23	16
	10	28	30	25	18	17	17	17	20	17	14	47	43	43	22	17	30	30	26	13	13	28	28	24	14	13
	12	23	19	18	14	13	13	11	13	12	11	36	32	28	15	14	17	17	15	13	11	22	20	17	13	12
	14	14	14	13	11	10	8	9	10	10	10	29	27	22	15	13	14	15	14	13	11	13	14	13	13	11
	16	13	11	11	11	11	6	7	8	9	9	23	24	18	13	12	10	12	12	11	11	11	11	11	11	11
	Avg	238	387	1083	954	735	175	454	1226	987	844	233	516	1389	1239	863	216	306	799	979	642	155	372	949	948	831

(Continued)

Table 5 (Concluded)

Station	Cycle	Base Sur-face	Base 1/4	Base Mid-depth	Base 3/4	Base Bot-tom	Plan 1 Sur-face	Plan 1 1/4	Plan 1 Mid-depth	Plan 1 3/4	Plan 1 Bot-tom	Plan 3 Sur-face	Plan 3 1/4	Plan 3 Mid-depth	Plan 3 3/4	Plan 3 Bot-tom
[illegible]	1	1003	1622	6214	7366	7507	375	1043	7507	8699	8699	885	924	7508	8699	8699
	2	1003	1412	4634	2113	2573	524	846	1538	2113	210	769	1287	3288	1246	398
	3	432	409	547	341	179	432	592	745	604	139	604	846	1370	558	189
	4	264	221	274	210	92	285	264	319	330	84	352	478	626	179	84
	5	153	134	148	104	77	136	156	136	182	77	169	179	210	131	69
	6	104	94	139	49	42	89	79	67	106	46	121	144	146	77	36
	8	55	47	42	29	23	30	37	31	27	21	69	67	64	36	27
	10	31	30	25	15	17	17	16	16	20	14	51	44	42	22	18
	12	22	19	18	13	12	11	12	12	13	13	35	30	26	15	15
	14	16	14	14	13	11	9	9	10	10	10	30	25	23	14	13
	16	12	11	12	11	10	8	7	8	9	9	23	20	18	13	13
	Avg	281	365	1097	933	958	174	278	944	1101	847	283	368	1211	999	869
[illegible]	1	1793	1665	2792	7366	7648	341	1003	6214	8699	8699	307	341	4355	8699	8699
	2	807	1205	2443	2095	592	398	924	1287	1707	242	604	1205	1707	964	375
	3	352	364	455	604	221	535	443	512	570	144	924	807	1166	364	169
	4	200	221	231	242	89	231	231	285	307	158	421	398	512	169	92
	5	124	134	131	170	104	156	126	139	242	87	221	169	221	89	49
	6	92	89	94	89	46	89	64	69	116	51	148	131	144	72	36
	8	46	44	46	34	23	35	29	28	47	20	72	64	67	32	25
	10	30	28	26	19	16	18	15	18	21	13	51	42	41	20	18
	12	22	20	18	13	12	11	11	11	13	13	38	31	29	15	15
	14	15	14	13	11	11	10	10	8	10	9	29	25	23	14	13
	16	13	13	11	11	11	7	7	8	8	9	23	21	20	13	13
	Avg	318	345	569	969	798	166	260	780	1067	859	258	294	753	950	864
[illegible]	1															
	2															
	3															
	4															
	5															
	6															
	8															
	10															
	12															
	14															
	16															
	Avg															

Station	Cycle	Plan 4B Sur-face	Plan 4B 1/4	Plan 4B Mid-depth	Plan 4B 3/4	Plan 4B Bot-tom	Plan 5B Sur-face	Plan 5B 1/4	Plan 5B Mid-depth	Plan 5B 3/4	Plan 5B Bot-tom
[illegible]	1	776	1329	5924	8201	6937	885	1124	5202	8699	8603
	2	735	807	1003	1003	221	626	1043	1622	1084	179
	3	489	570	683	169	56	386	512	885	341	148
	4	264	253	231	74	16	210	274	443	116	82
	5	168	139	131	27	10	141	156	179	46	28
	6	96	92	74	24	15	89	87	96	24	23
	8	53	50	42	16	13	49	46	50	21	18
	10	31	30	28	13	13	28	28	26	13	13
	12	18	18	17	14	11	21	19	17	13	13
	14	14	14	14	11	11	17	16	16	11	11
	16	10	11	12	10	11	11	11	11	12	11
	Avg	241	301	736	869	665	224	301	777	944	830
[illegible]	1	512	846	3416	8336	6648	769	581	4080	8699	7927
	2	592	769	1836	1370	109	807	964	1287	769	231
	3	524	409	443	139	46	443	398	730	375	131
	4	274	200	242	54	15	242	221	352	119	59
	5	182	146	131	23	11	153	131	159	49	26
	6	104	74	87	15	12	89	82	92	38	20
	8	58	43	42	16	13	49	43	45	19	18
	10	36	28	27	11	11	33	27	27	14	13
	12	19	16	17	12	11	24	19	18	11	13
	14	15	14	15	11	10	17	17	16	11	10
	16	11	11	12	11	10	12	11	11	11	11
	Avg	212	232	570	909	627	240	227	620	920	769
[illegible]	1	489	924	2442	6938	8064	253		466		6069
	2	375	570	1003	285	253	307		964		1329
	3	386	466	570	319	79	364		455		924
	4	242	285	231	163	165	159		242		319
	5	156	161	136	79	14	121		124		169
	6	99	101	84	36	10	84		84		84
	8	48	47	47	24	14	48		43		42
	10	32	33	28	21	12	31		29		24
	12	17	19	17	18	12	21		18		17
	14	14	14	13	13	11	14		21		13
	16	10	11	11	11	10	9		11		11
	Avg	170	239	417	719	786	128		223		818

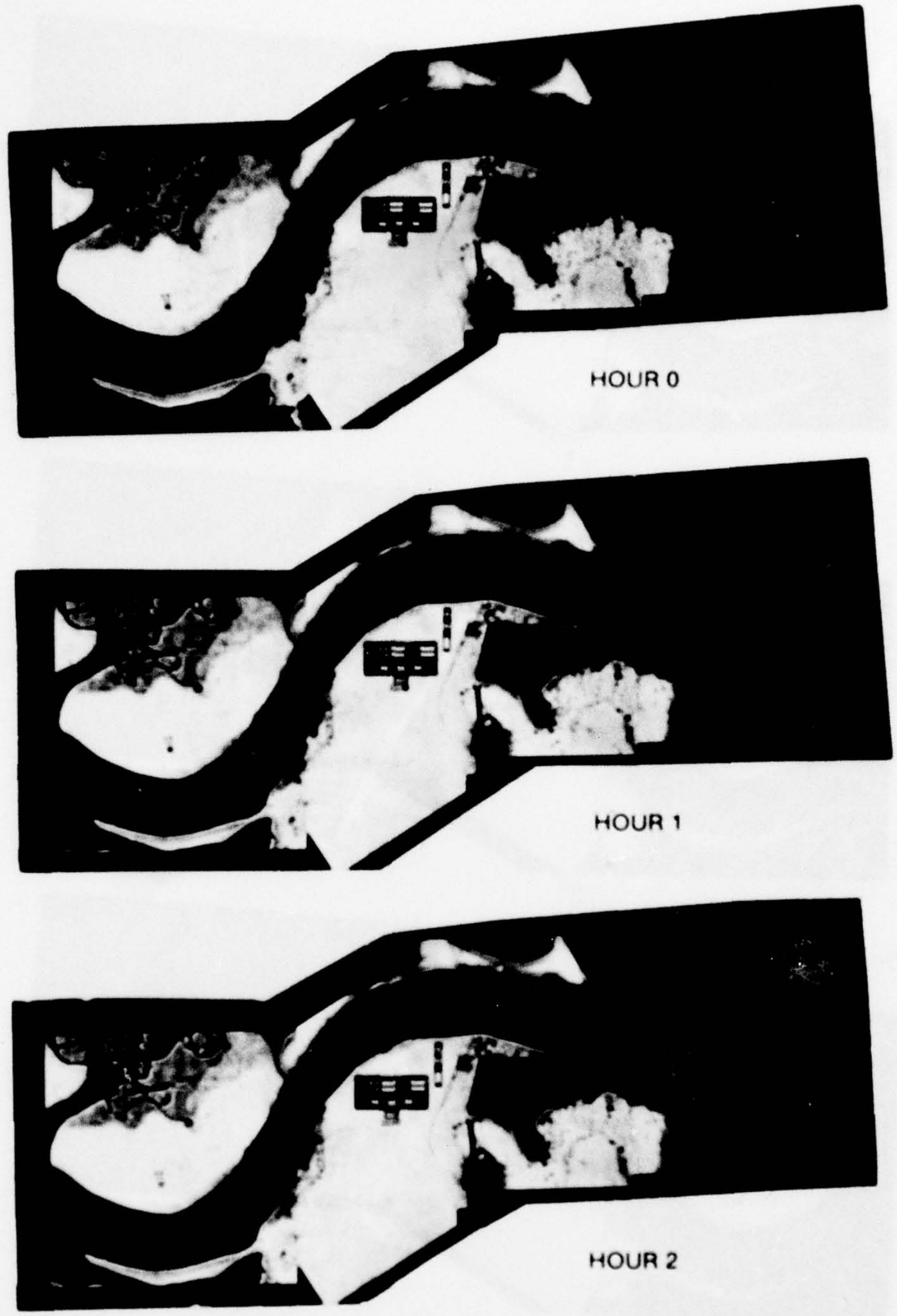
(Sheet 10 of 10)

Table 6

Basin Average - Dye Concentrations, ppb*

	Base					Plan 1					Plan 3					Plan 4B					Plan 5B				
Cycle	Surface	1/4	1/2	3/4	Bottom	Surface	1/4	1/2	3/4	Bottom	Surface	1/4	1/2	3/4	Bottom	Surface	1/4	1/2	3/4	Bottom	Surface	1/4	1/2	3/4	Bottom
	High-Water Slack																								
1	2196	6045	2689	1618	1585	668	8410	3223	1350	1279	959	7068	5086	1721	1546	1570	3826	2190	1332	854	1343	5146	2251	1118	955
2	1007	2181	809	399	386	893	2989	769	562	304	885	3453	1194	450	348	818	891	439	314	176	1281	1243	550	386	212
3	491	618	219	193	188	440	1131	348	253	193	533	1360	382	240	181	370	250	141	94	49	572	466	201	167	134
4	218	304	113	112	102	197	386	168	146	135	261	511	195	160	113	182	112	52	35	19	262	142	84	70	54
5	143	144	72	57	62	118	174	80	84	77	179	220	112	88	86	130	50	24	18	12	138	76	43	40	34
6	100	71	45	38	38	60	92	51	48	42	129	157	62	60	60	67	33	21	18	15	85	41	31	25	26
8	49	33	21	21	22	24	39	20	21	22	64	49	42	34	36	41	21	16	15	14	40	23	20	19	19
10	27	17	14	13	15	15	15	12	13	14	46	32	22	19	24	28	16	14	13	12	26	17	14	14	14
12	19	13	12	12	13	11	11	10	10	11	32	19	17	16	17	18	13	12	11	11	18	13	12	12	12
14	14	11	11	11	11	9	9	9	9	9	27	16	15	14	14	13	11	11	10	10	13	11	11	11	11
16	11	10	10	10	10	7	9	9	9	9	22	14	13	12	13	11	11	11	10	10	11	11	10	11	10
	Low-Water Slack																								
1	1329	2219	5265	7507	7647	721	1428	5886	8699	8699	617	1499	6517	8699	8699	699	1266	4982	8236	7926	672	1119	4770	8699	8449
2	843	1499	3449	2120	771	551	1082	1959	2432	260	730	1474	3411	2357	474	619	905	1390	1548	293	612	1017	1966	1623	376
3	305	442	670	1044	233	334	438	739	634	154	472	632	1354	860	203	358	379	524	381	77	343	419	745	561	224
4	189	207	343	502	112	198	226	352	325	102	277	315	632	355	114	209	206	214	123	35	193	222	331	201	104
5	131	143	171	224	76	115	132	166	198	78	173	177	268	200	69	140	123	125	51	13	128	128	150	84	45
6	93	90	108	126	38	65	69	81	101	50	114	124	163	130	49	90	79	77	37	13	86	82	93	51	33
8	46	43	41	50	23	28	29	30	34	26	67	63	76	54	34	49	42	39	19	14	46	43	43	26	21
10	30	28	25	23	17	15	15	17	19	15	47	41	41	31	24	31	28	26	13	12	29	27	25	16	15
12	21	19	17	15	14	11	11	11	13	12	34	30	27	20	19	18	17	16	13	12	21	19	18	14	14
14	15	14	13	12	12	9	9	9	10	10	29	25	22	15	15	14	14	14	12	11	15	14	14	12	11
16	13	11	12	11	11	7	7	8	9	9	23	21	18	13	13	11	11	12	11	10	11	11	11	11	11

* Average of all stations located within the basin (MBA-MB-N).



VELOCITY SCALE

5 0 5 10 15

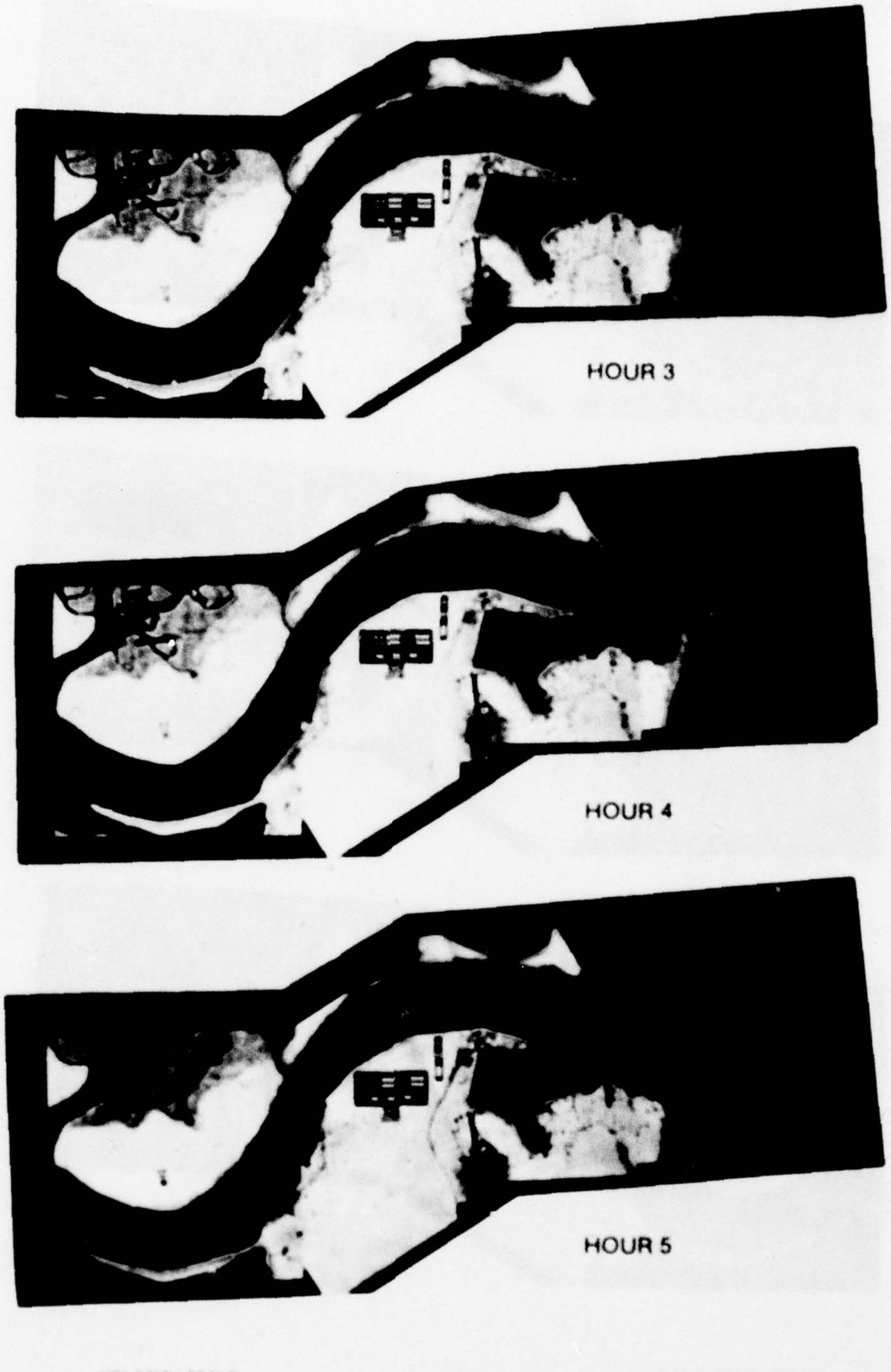
FPS, PROTOTYPE

SURFACE CURRENT PATTERNS

BASE TEST

HOURS 0-2

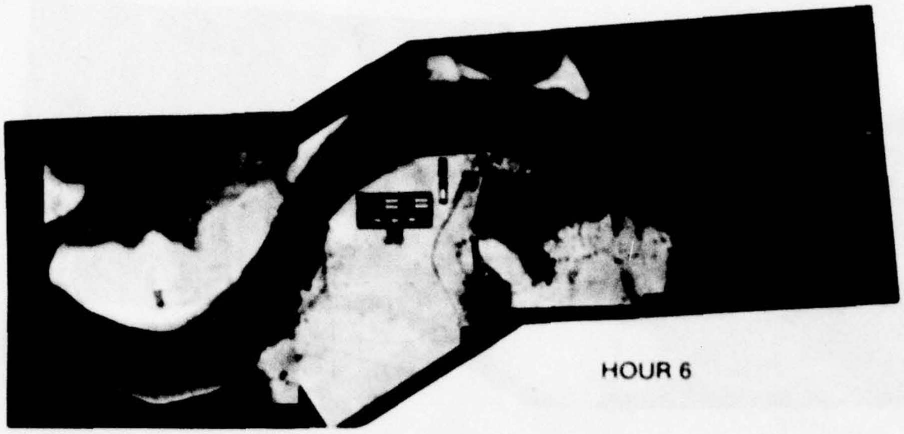
PHOTO 1



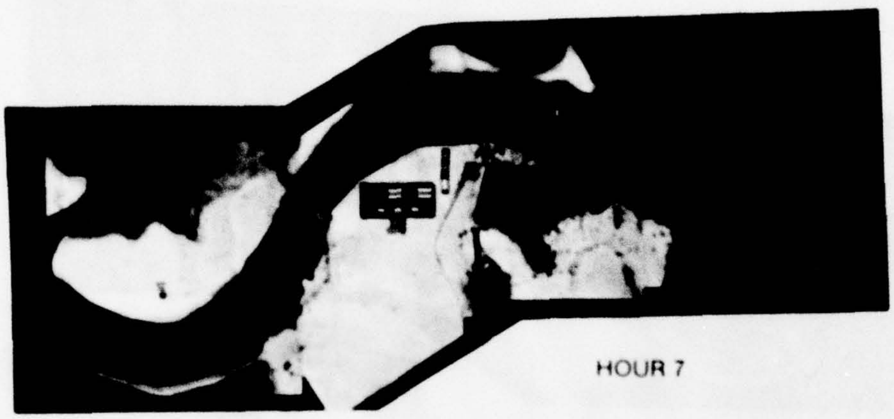
VELOCITY SCALE
5 0 5 10 15
FPS, PROTOTYPE

SURFACE CURRENT PATTERNS
BASE TEST
HOURS 3-5

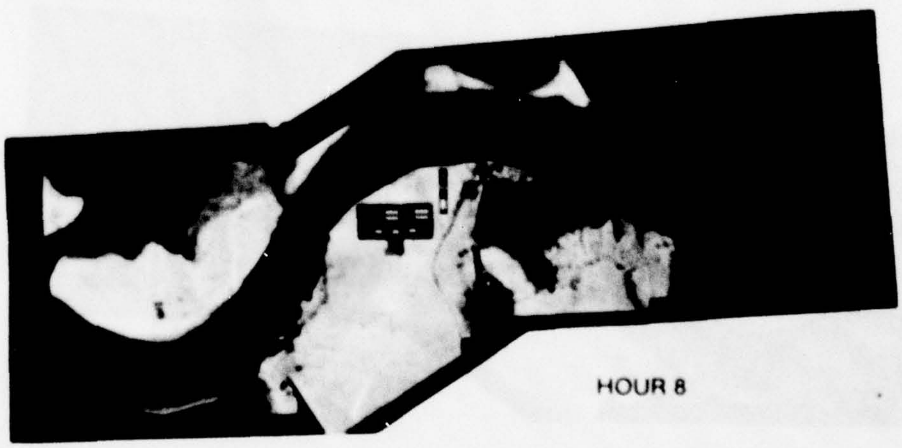
PHOTO 2



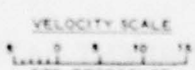
HOUR 6



HOUR 7



HOUR 8

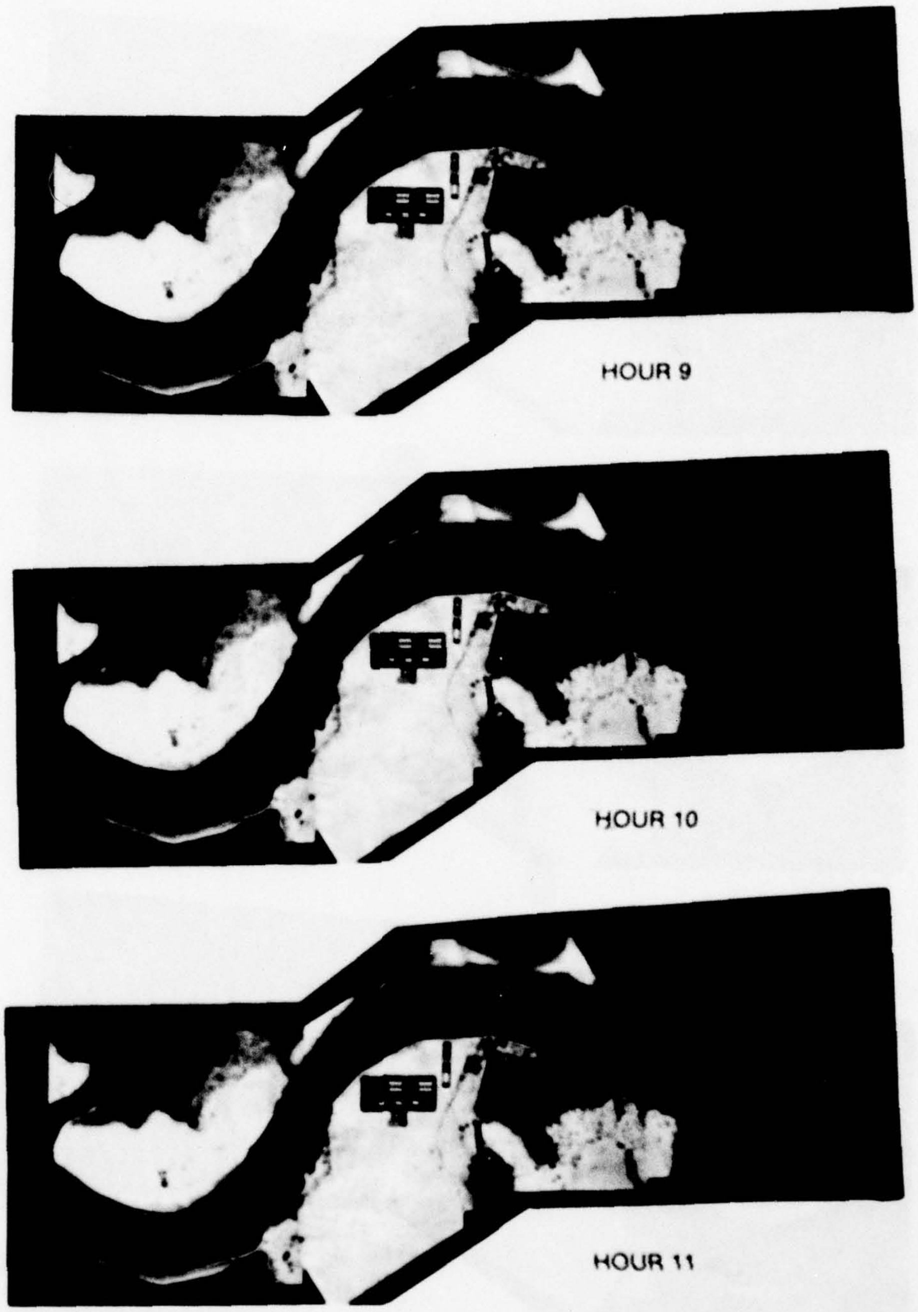


SURFACE CURRENT PATTERNS

BASE TEST

HOURS 6-8

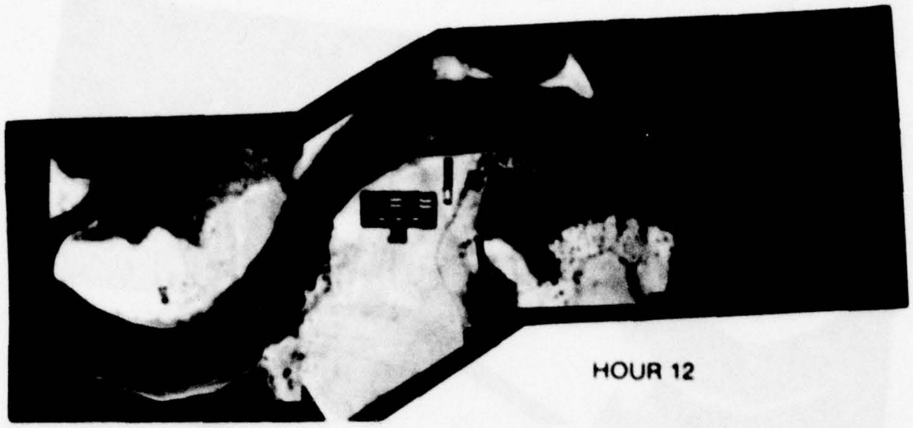
PHOTO 3

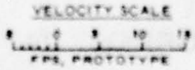


VELOCITY SCALE
5 0 5 10 15
FPS, PROTOTYPE

SURFACE CURRENT PATTERNS
BASE TEST
HOURS 9-11

PHOTO 4



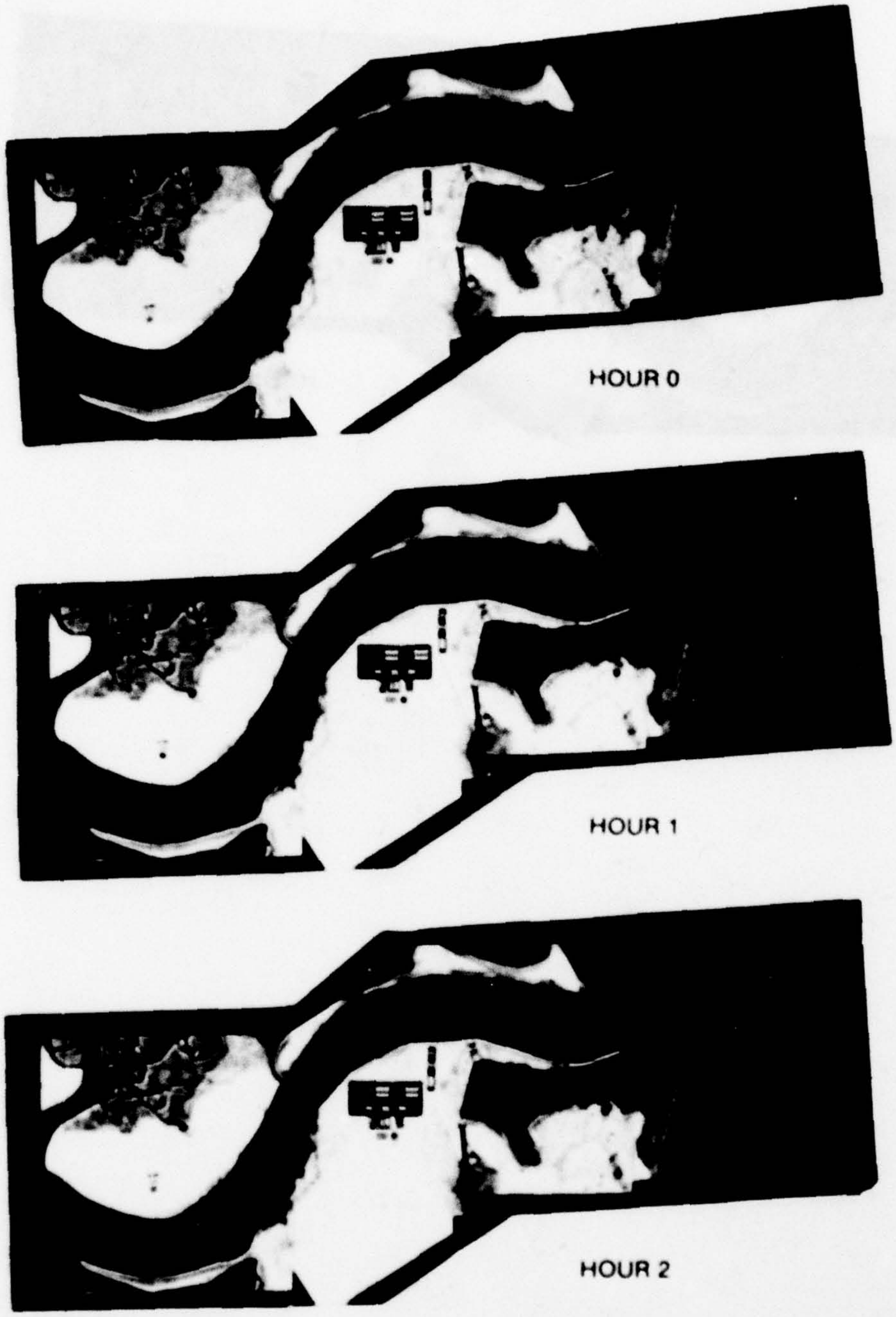


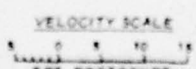
SURFACE CURRENT PATTERNS

BASE TEST

HOUR 12

PHOTO 5



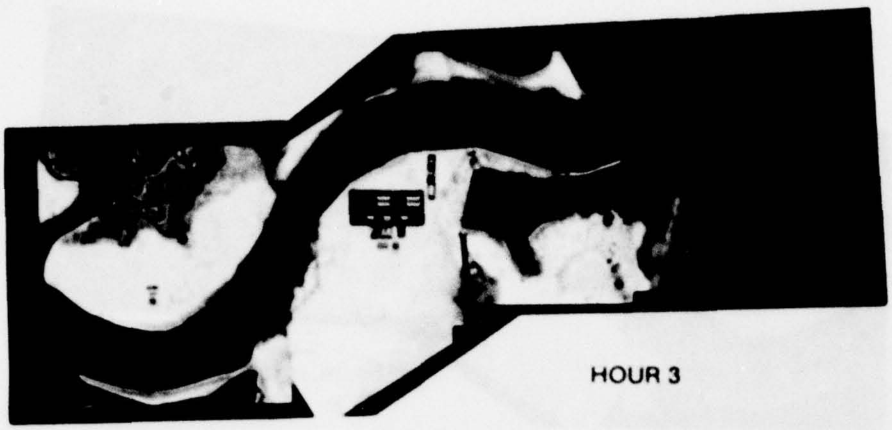


SURFACE CURRENT PATTERNS

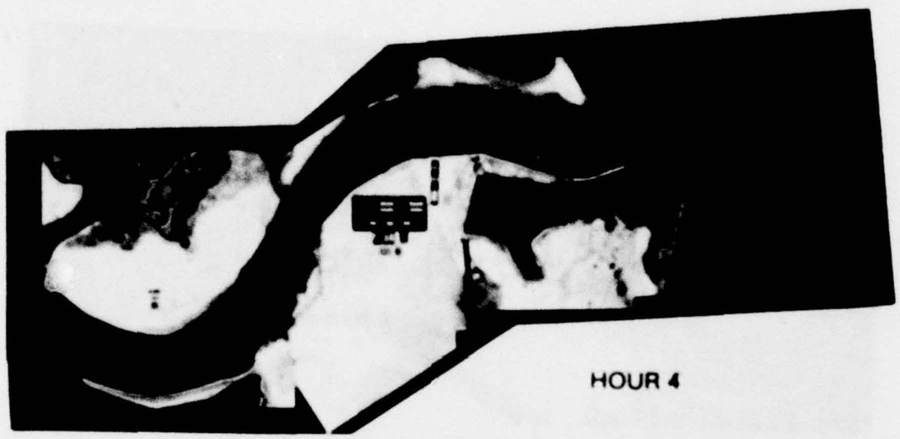
PLAN 1

HOURS 0-2

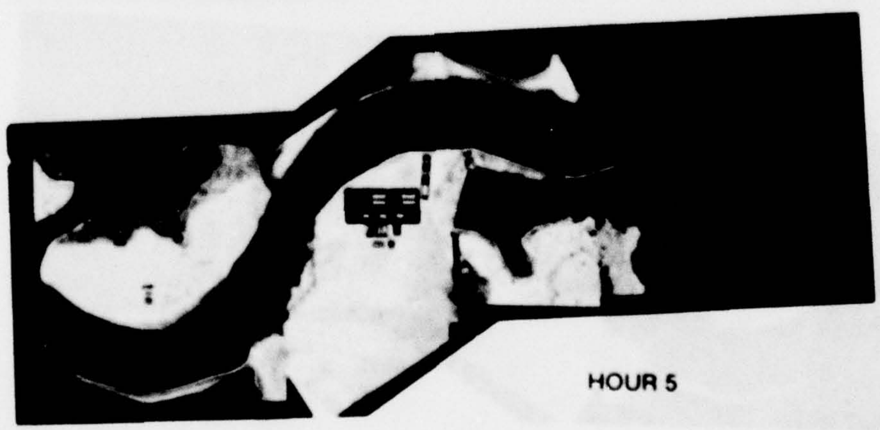
PHOTO 6



HOUR 3



HOUR 4



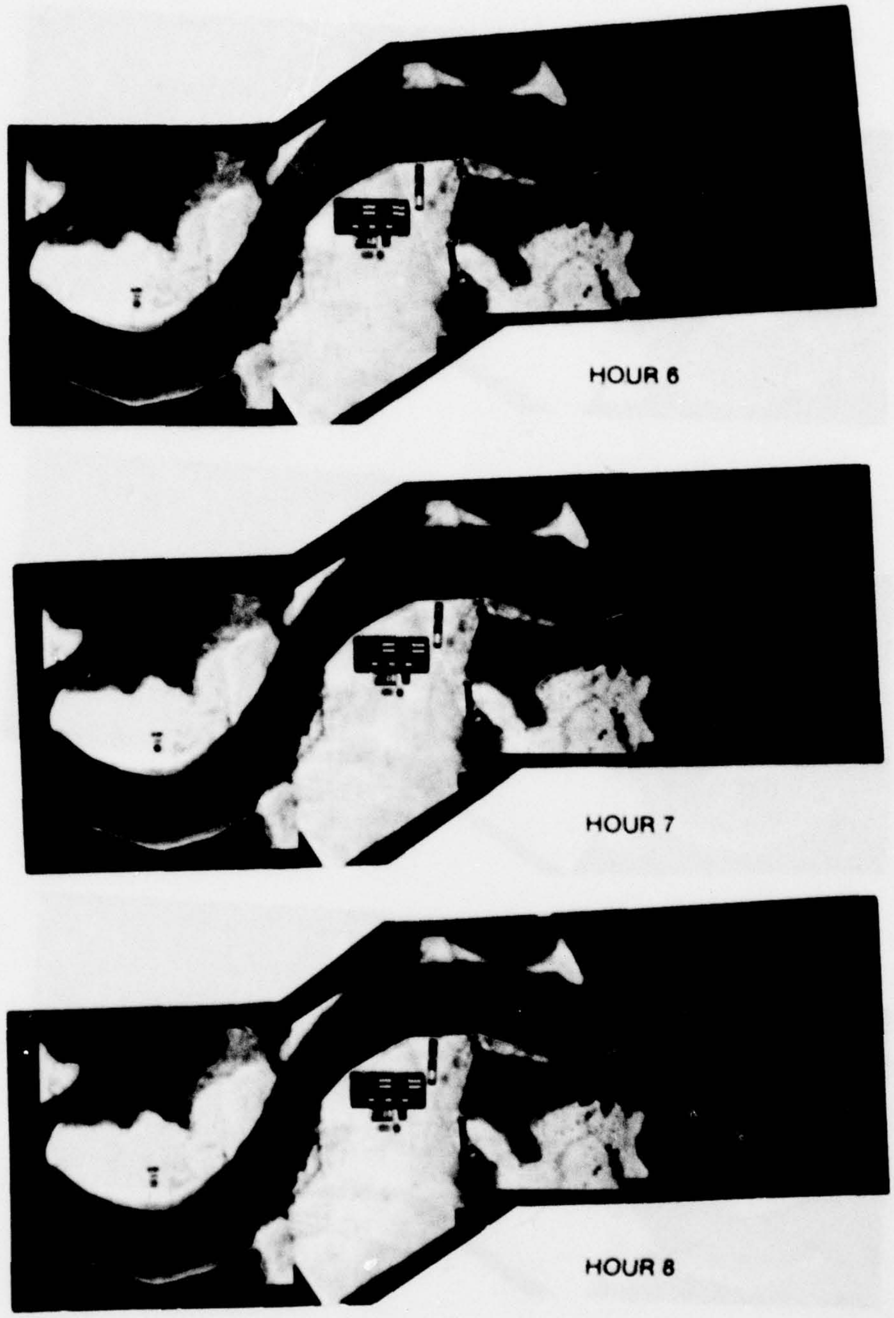
HOUR 5

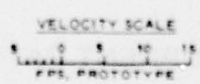
VELOCITY SCALE
5 0 5 10 15
FPS, PROTOTYPE

SURFACE CURRENT PATTERNS

PLAN 1
HOURS 3-5

PHOTO 7



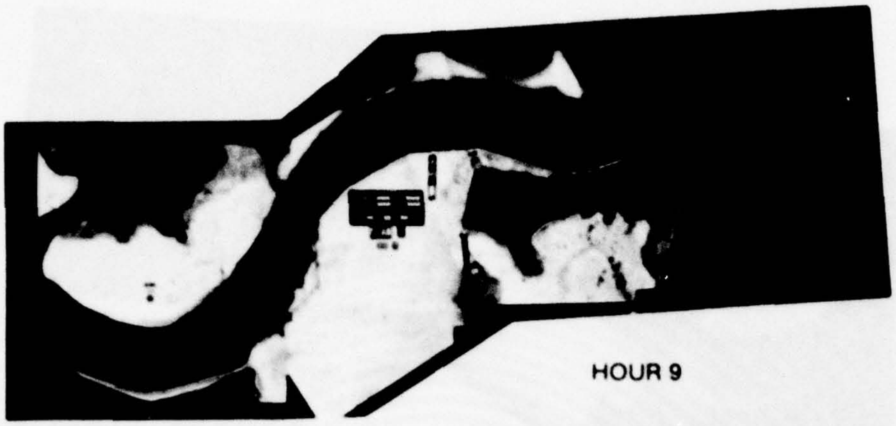


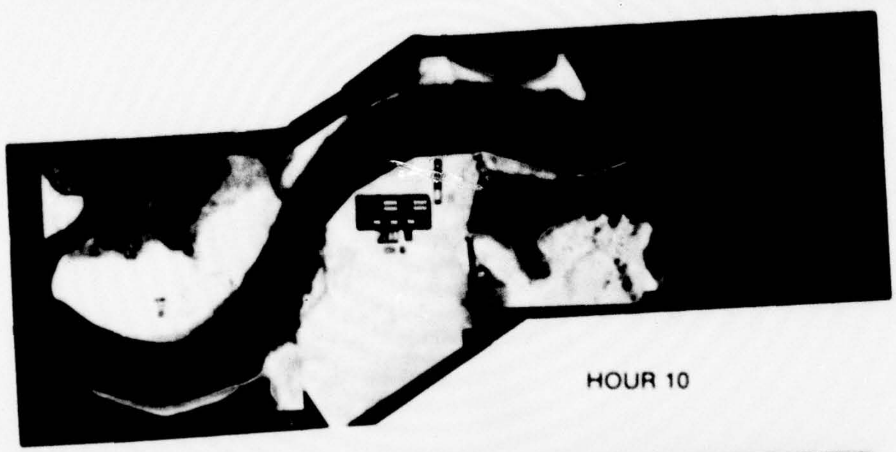
SURFACE CURRENT PATTERNS

PLAN 1

HOURS 6-8

PHOTO 8


HOUR 9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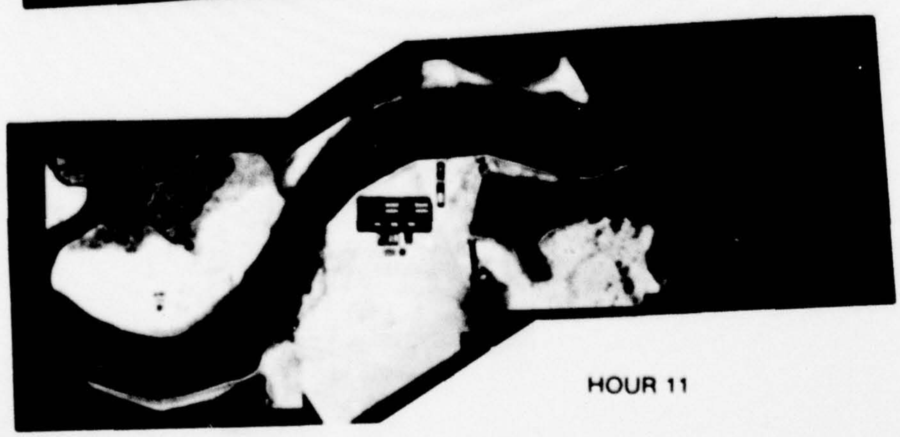
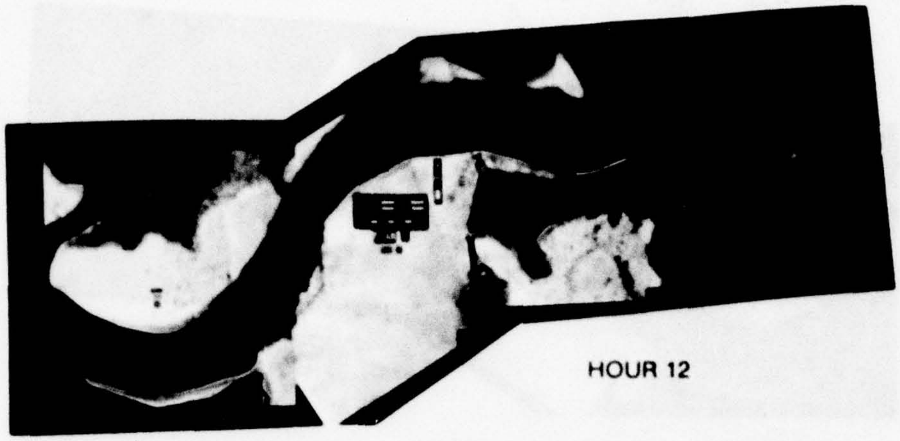

HOUR 11

VELOCITY SCALE
5 0 5 10 15
FPS, PROTOTYPE

SURFACE CURRENT PATTERNS
PLAN 1
HOURS 9-11

PHOTO 9



VELOCITY SCALE

5 0 5 10 15

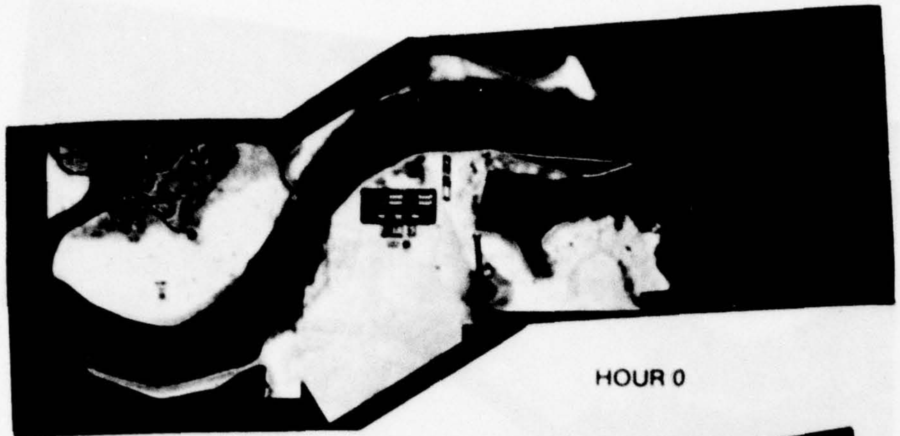
FPS, PROTOTYPE

SURFACE CURRENT PATTERNS

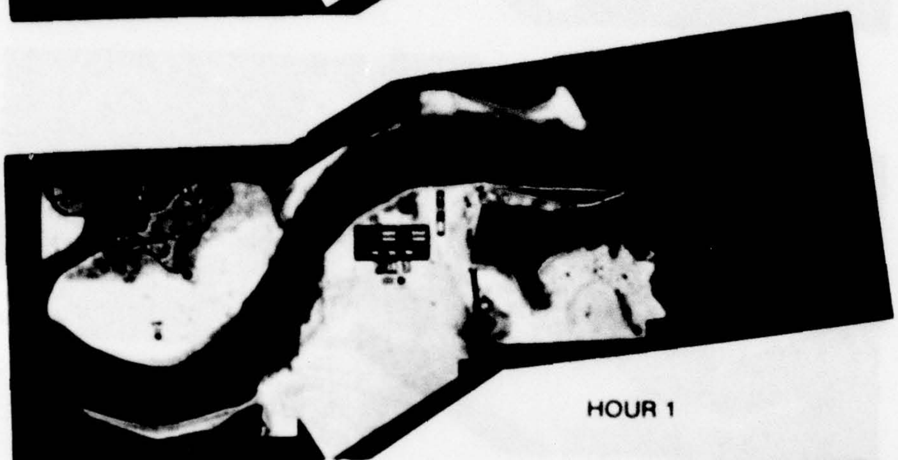
PLAN 1

HOUR 12

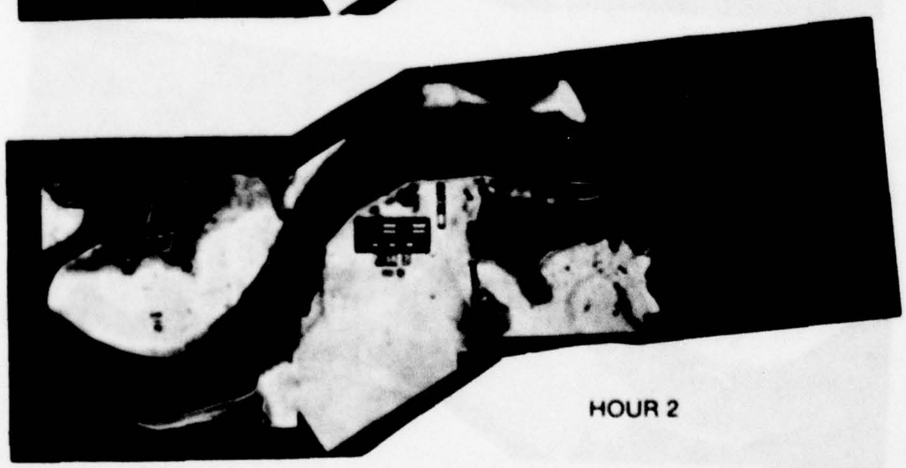
PHOTO 10



HOUR 0



HOUR 1



HOUR 2

VELOCITY SCALE

5 0 5 10 15

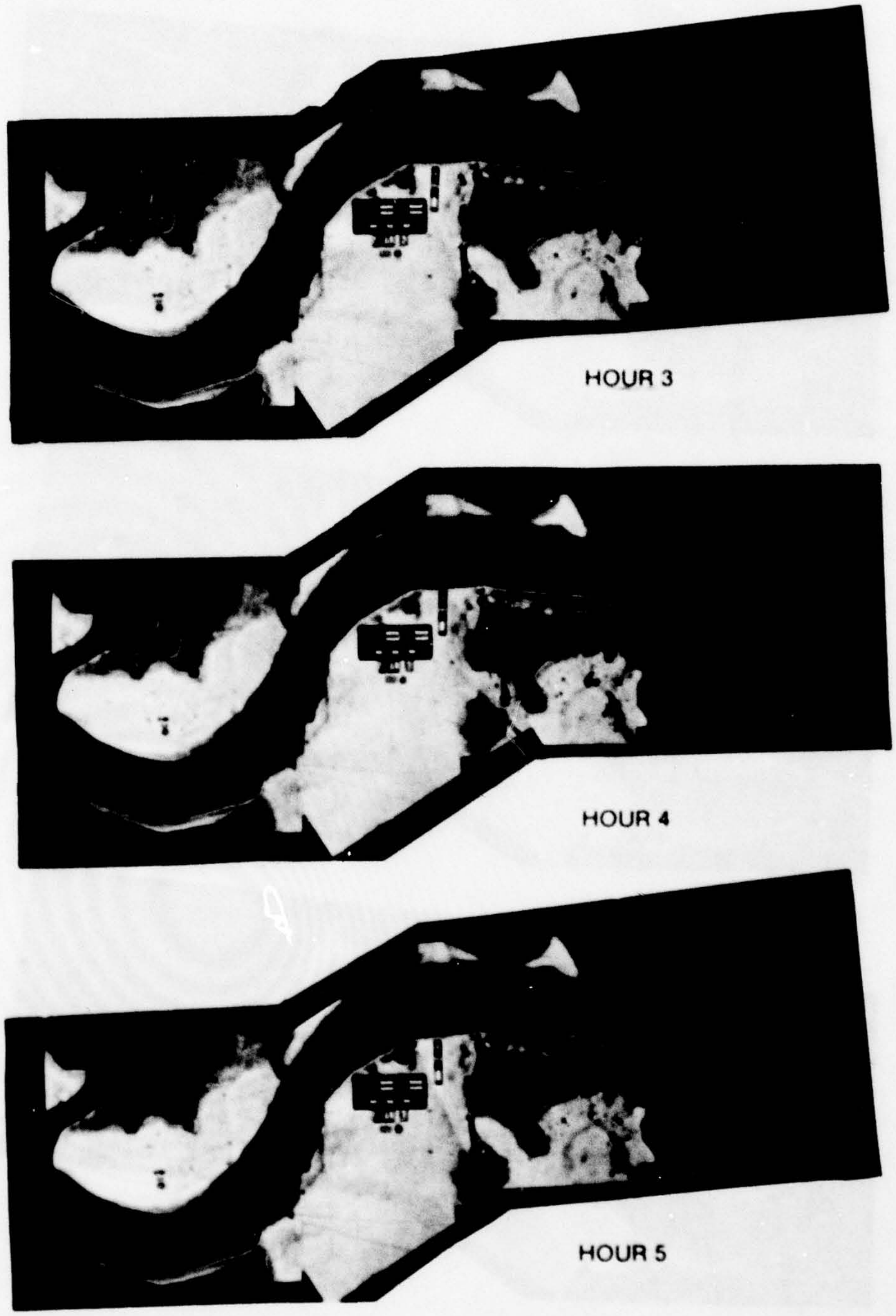
FPS, PROTOTYPE

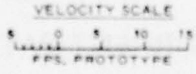
SURFACE CURRENT PATTERNS

PLAN 3

HOURS 0-2

PHOTO 11



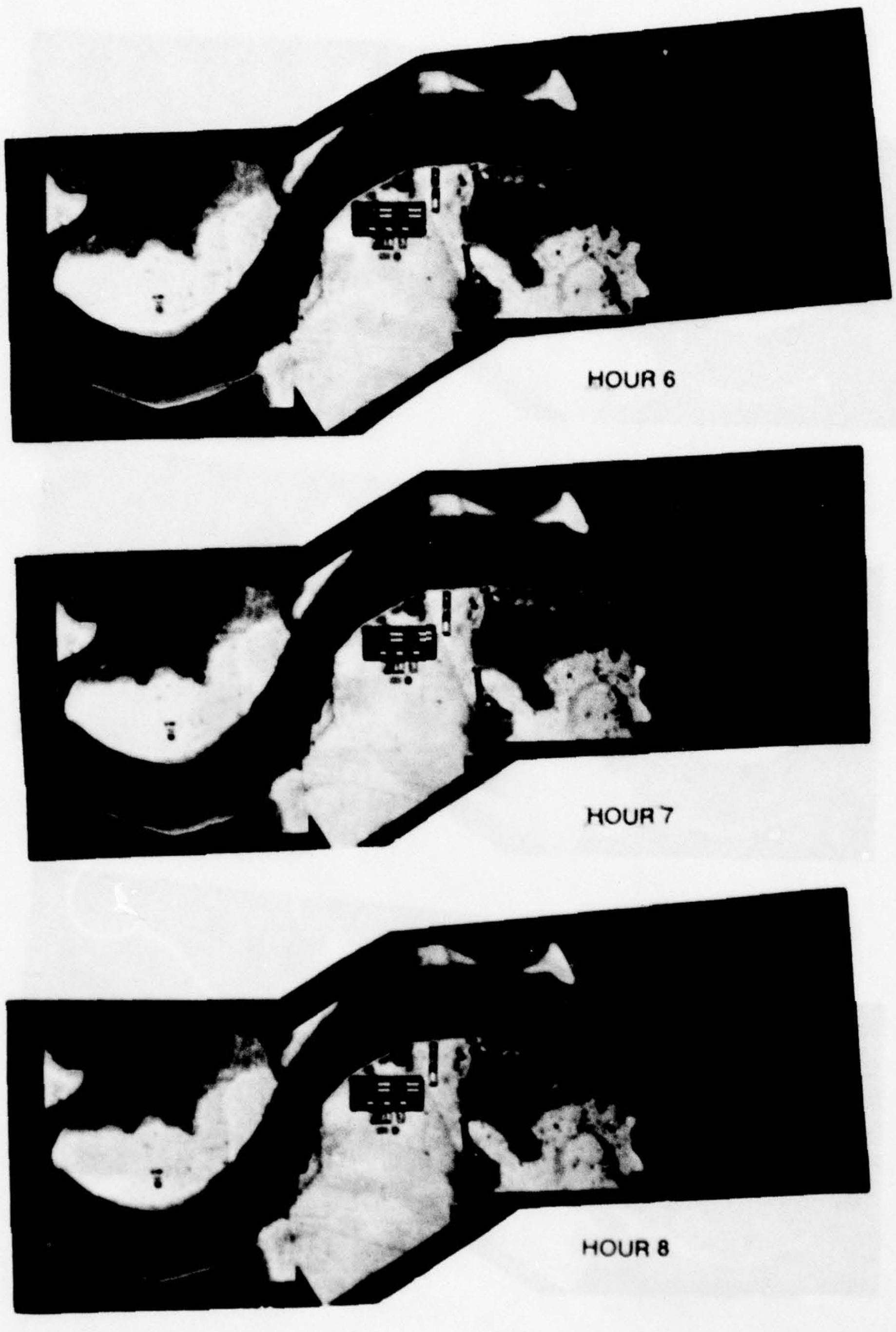


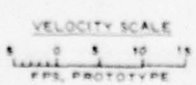
SURFACE CURRENT PATTERNS

PLAN 3

HOURS 3-5

PHOTO 12



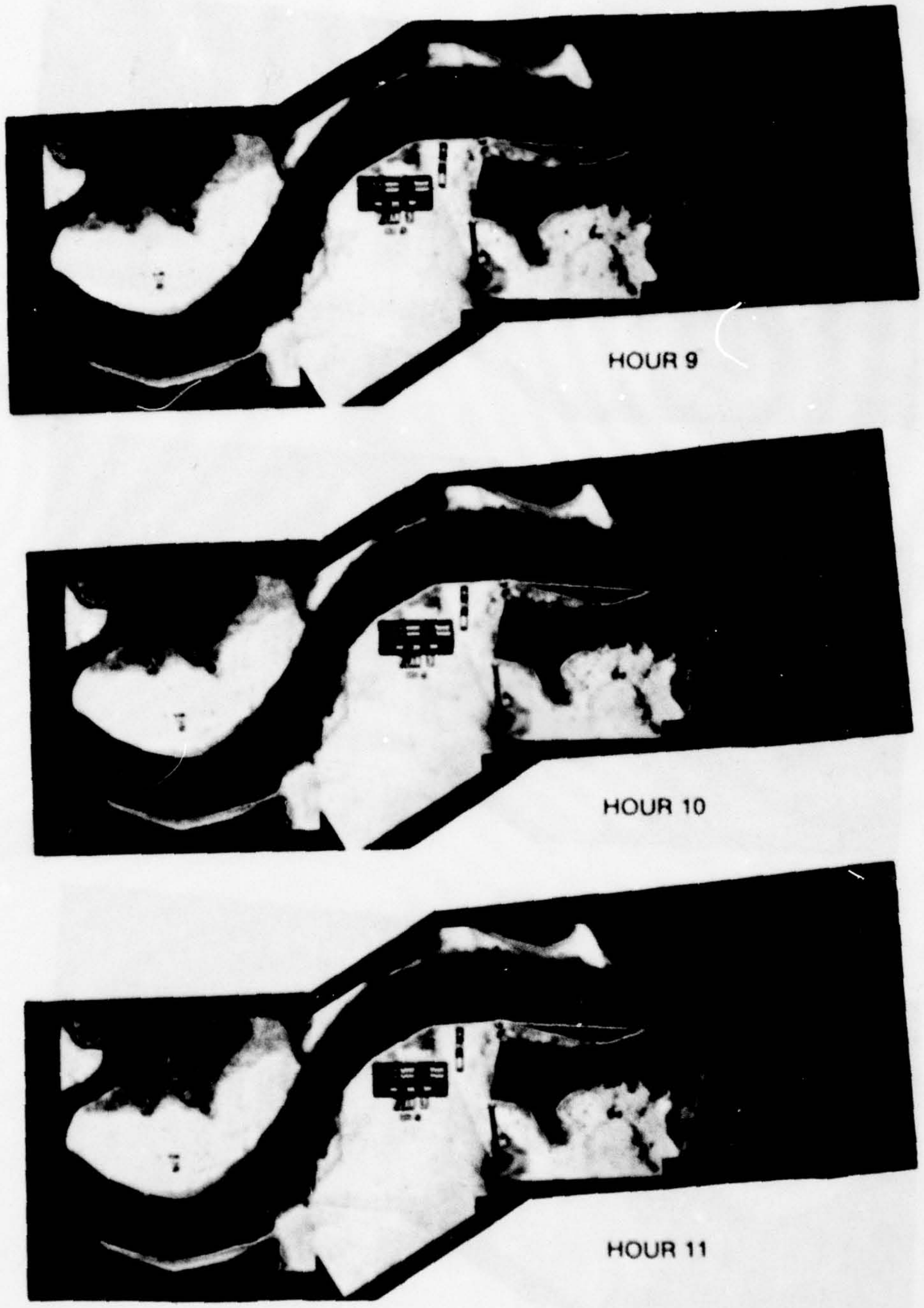


SURFACE CURRENT PATTERNS

PLAN 3

HOURS 6-8

PHOTO 13



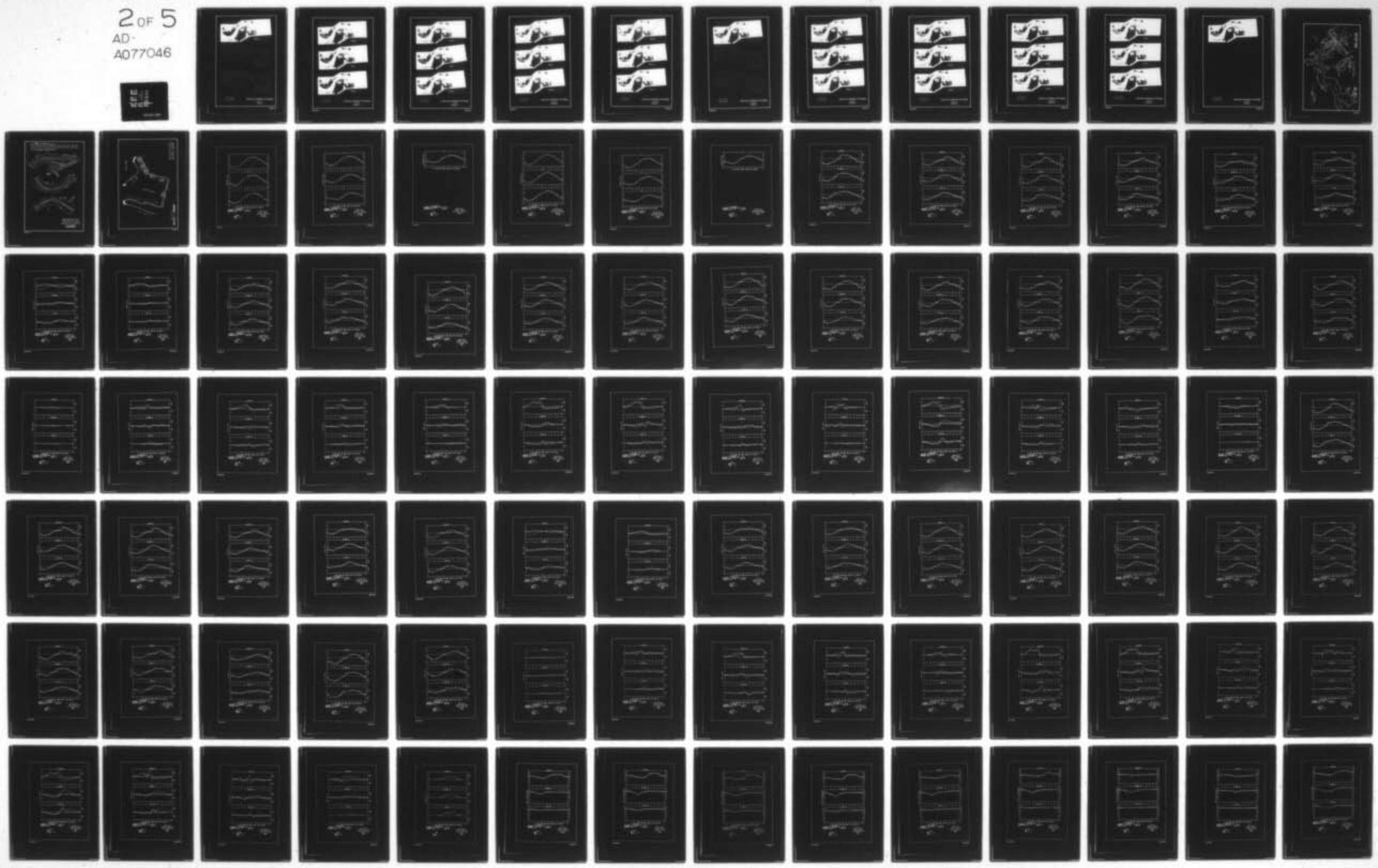
VELOCITY SCALE
5 0 5 10 15
FPS, PROTOTYPE

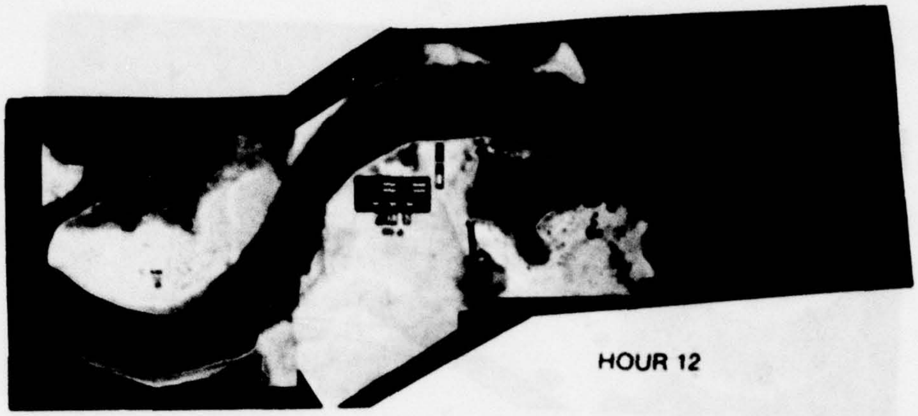
SURFACE CURRENT PATTERNS
PLAN 3
HOURS 9-11

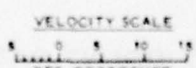
PHOTO 14

AD-A077 046 ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MS F/G 8/8
MAYPORT-MILL COVE MODEL STUDY. REPORT 2. MAYPORT NAVAL BASIN ST--ETC(U)
AUG 79 N J BROGDON
UNCLASSIFIED WES-TR-HL-79-12 NL

2 OF 5
AD-
A077046



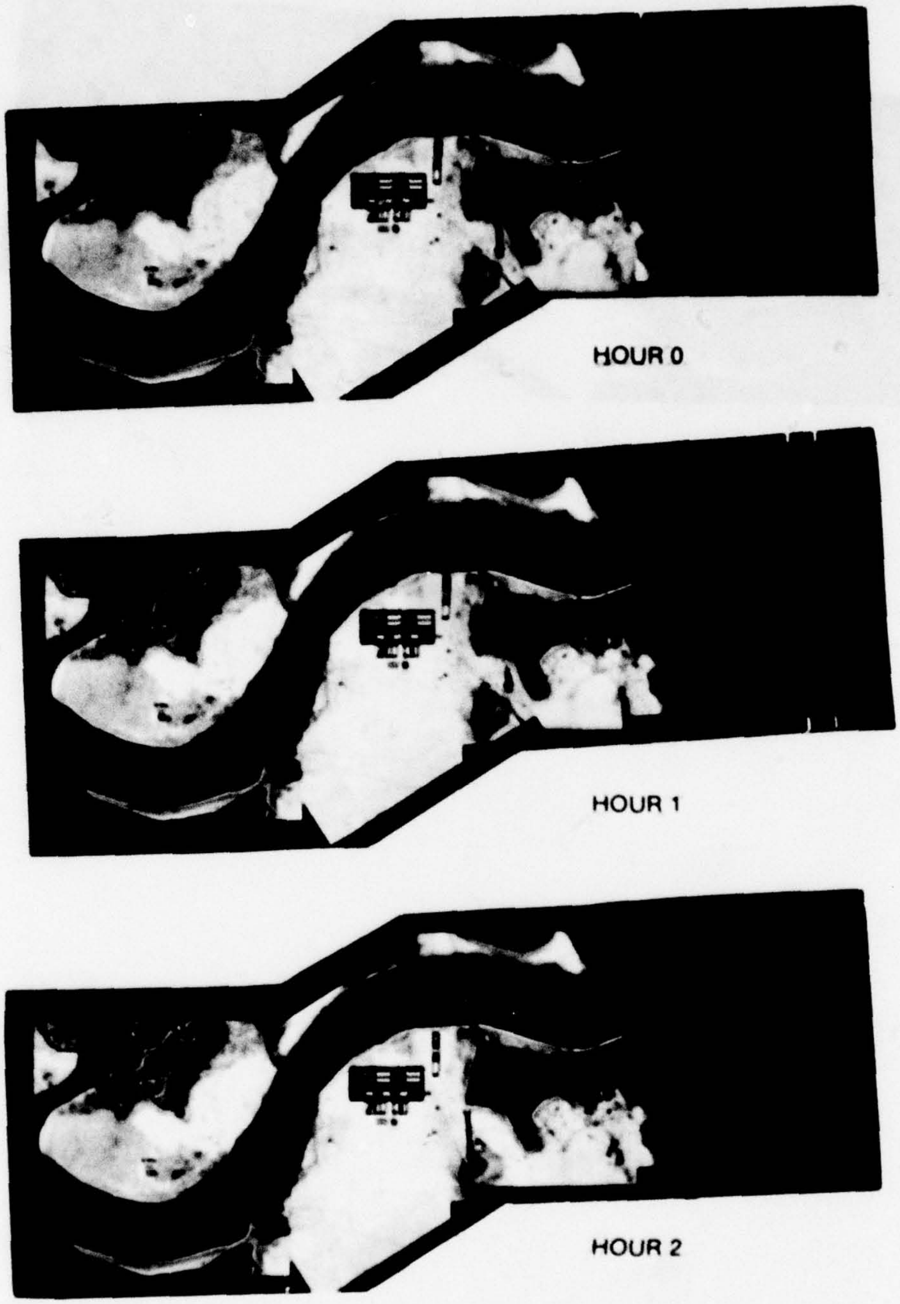




SURFACE CURRENT PATTERNS

PLAN 3
HOUR 12

PHOTO 15

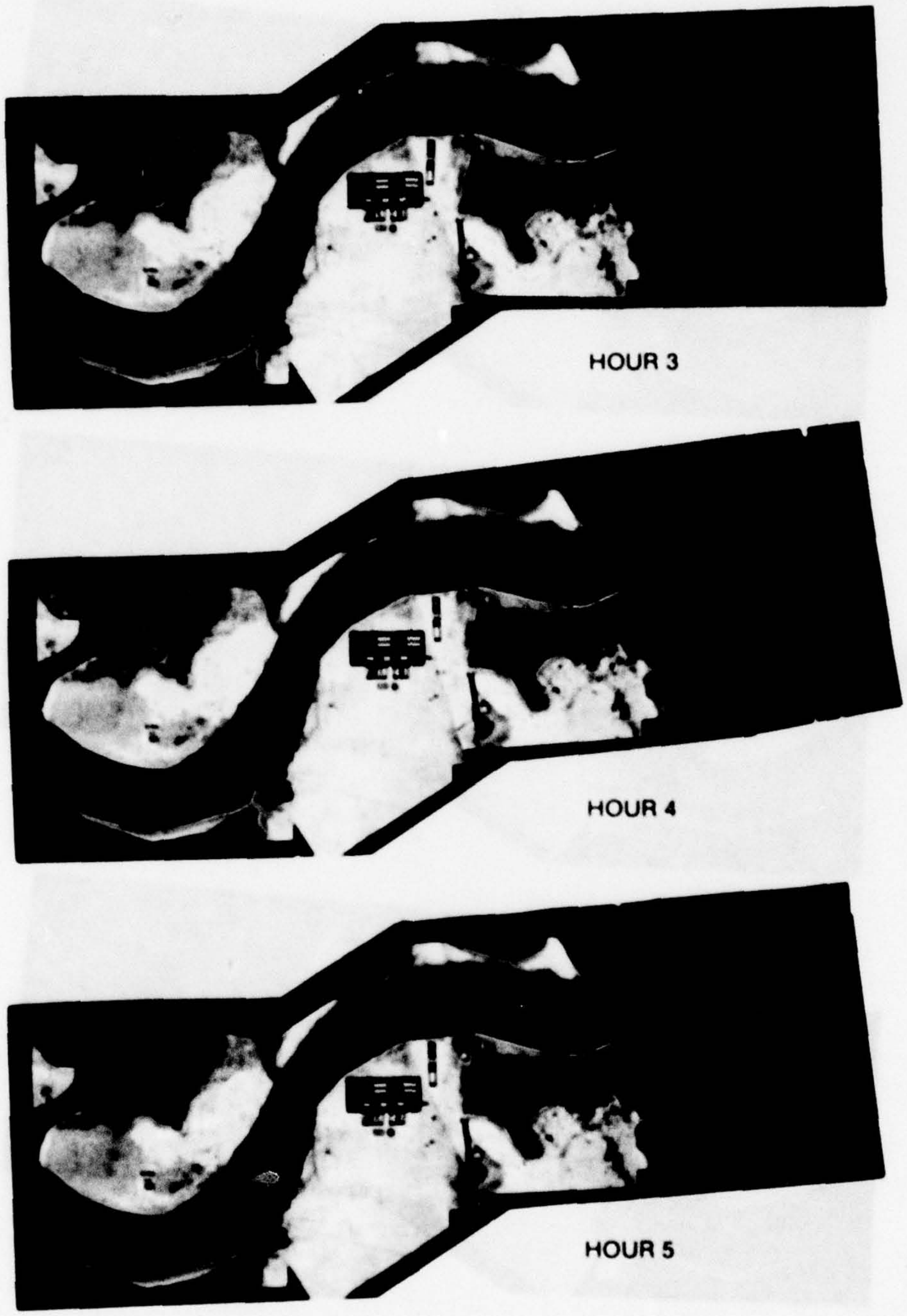


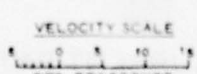
VELOCITY SCALE
5 0 5 10 15
FPS, PROTOTYPE

SURFACE CURRENT PATTERNS

PLAN 4B
HOURS 0-2

PHOTO 16



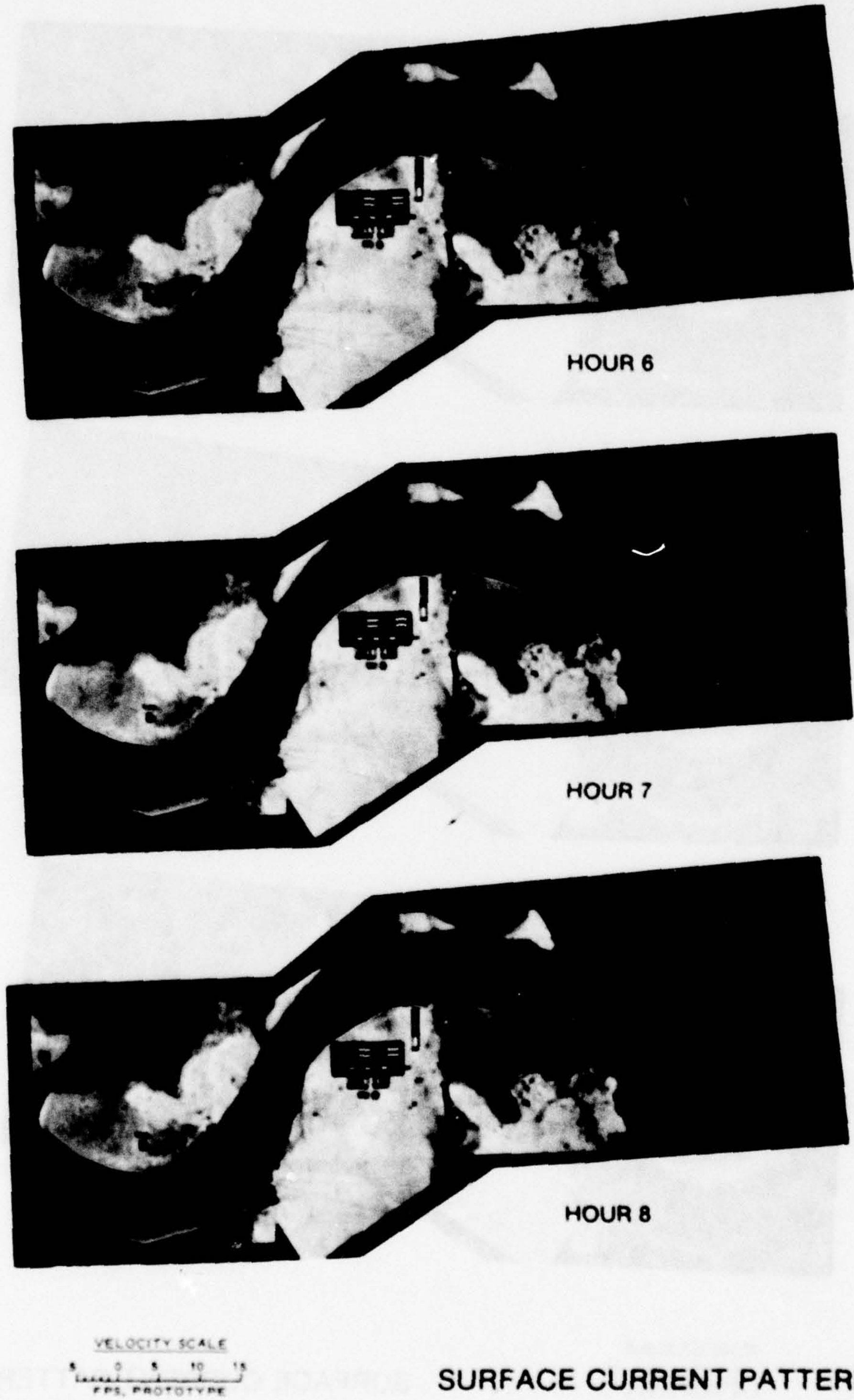


SURFACE CURRENT PATTERNS

PLAN 4B

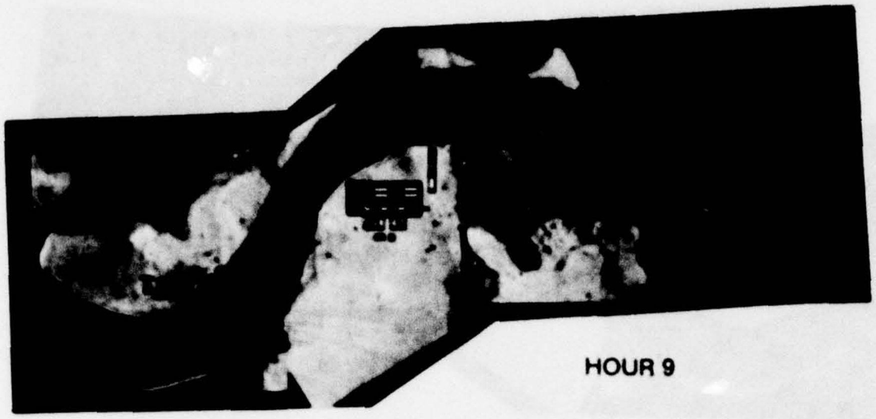
HOURS 3-5

PHOTO 17

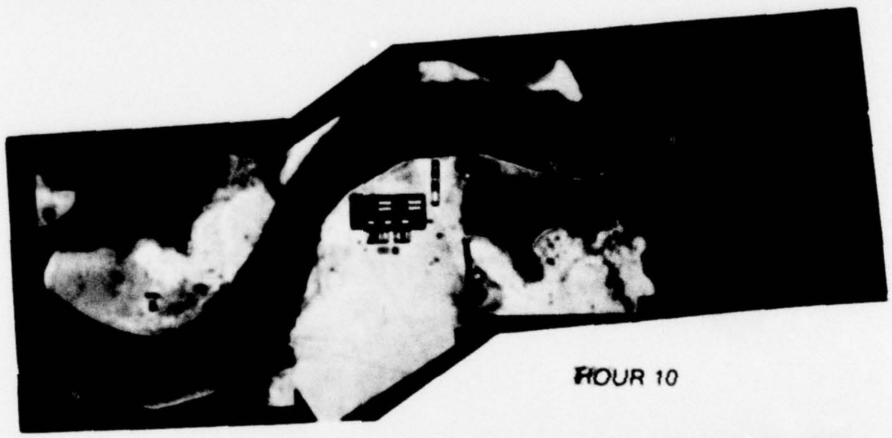


SURFACE CURRENT PATTERNS
PLAN 4B
HOURS 6-8

PHOTO 18



HOUR 9



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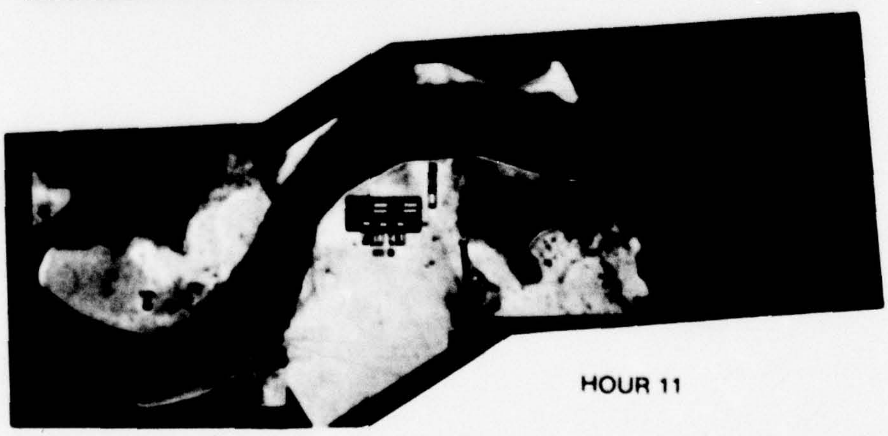
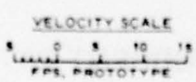


HOUR 11

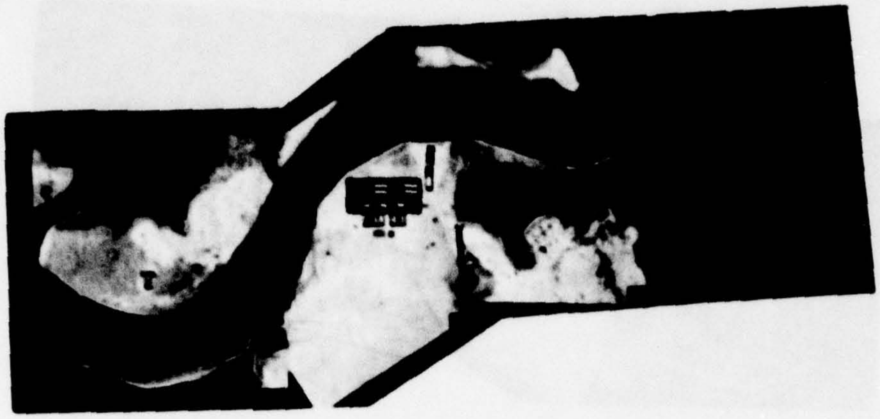


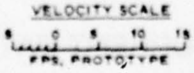
SURFACE CURRENT PATTERNS

PLAN 4B

HOURS 9-11

PHOTO 19



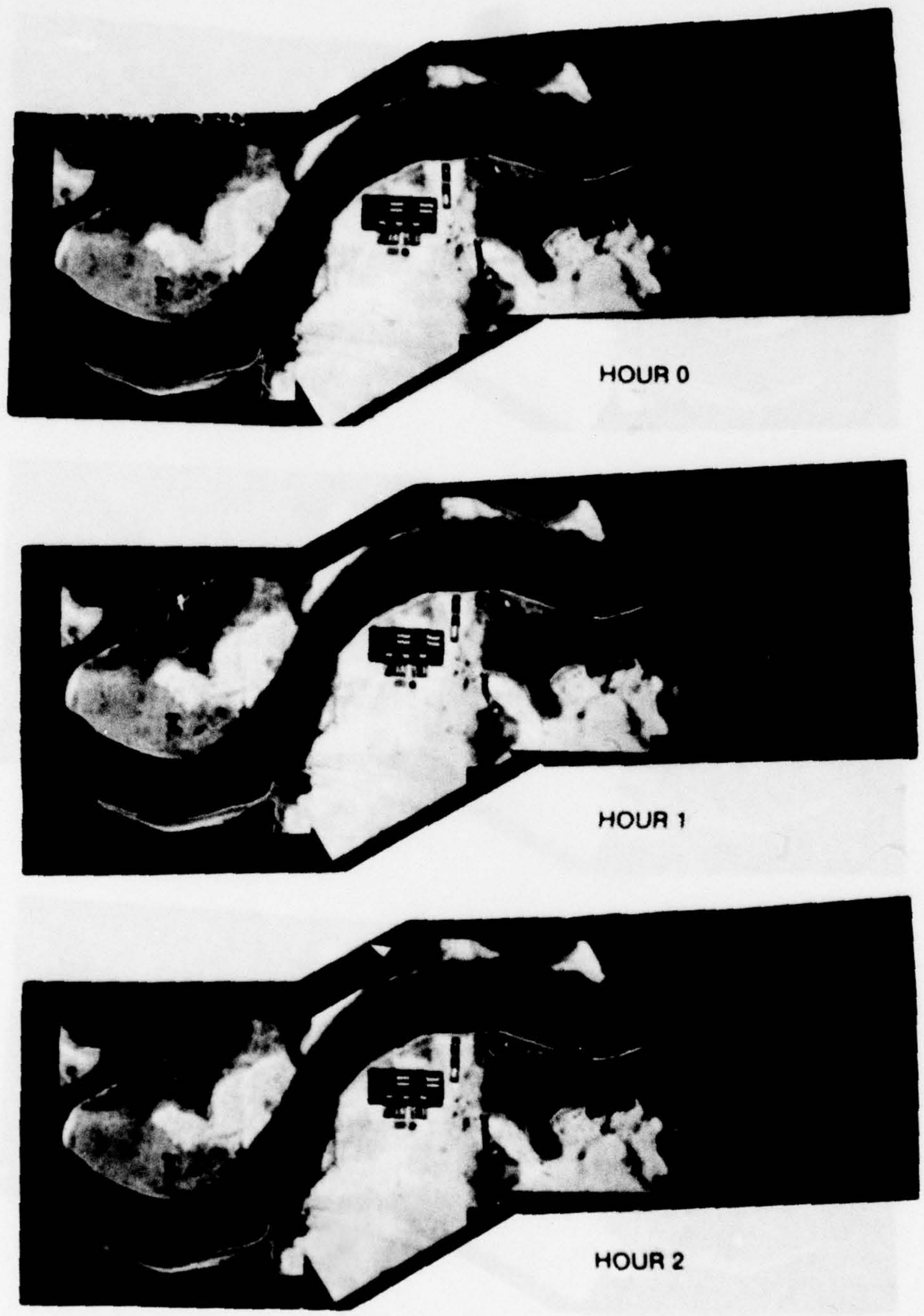


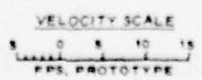
SURFACE CURRENT PATTERNS

PLAN 4B

HOUR 12

PHOTO 20



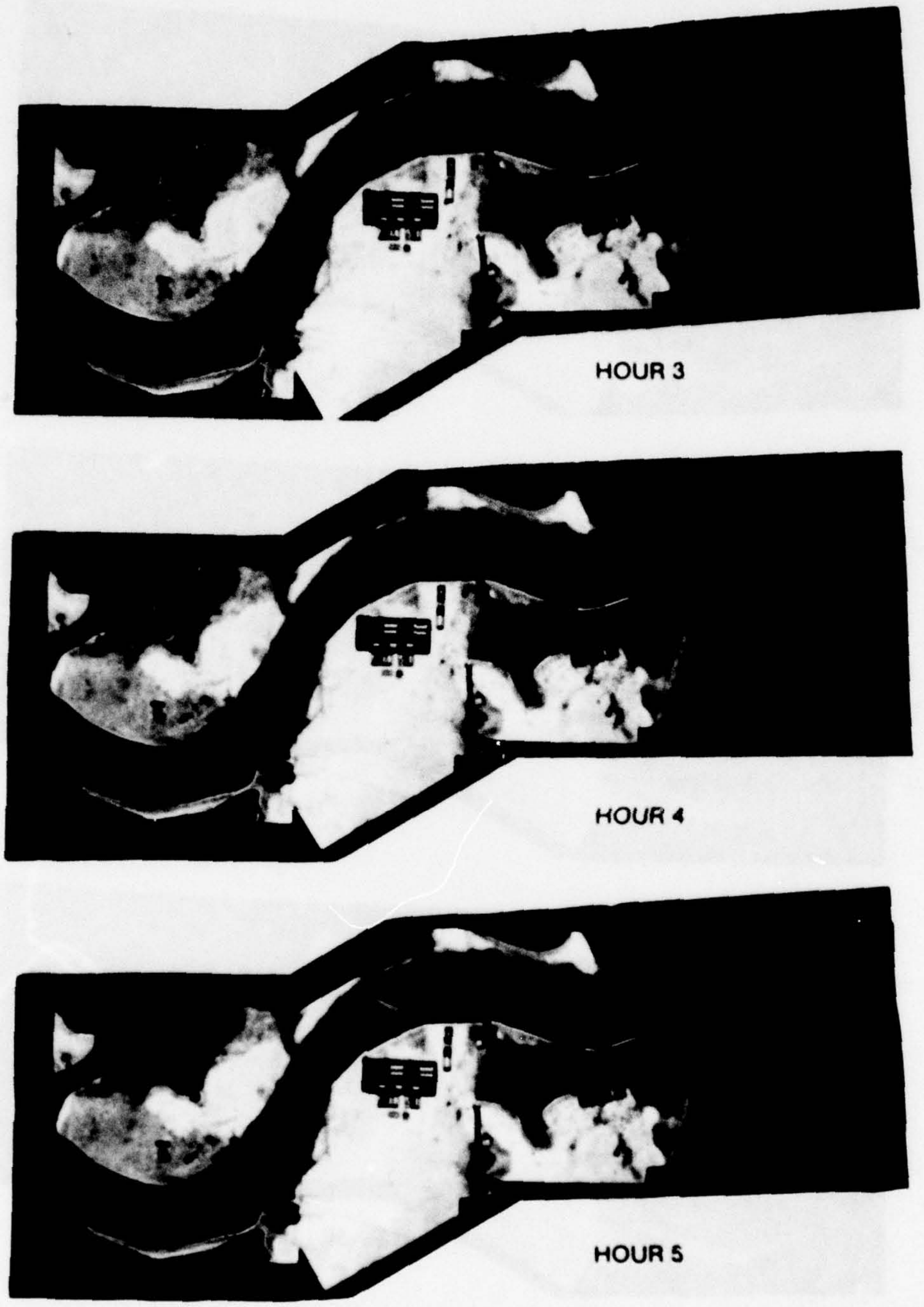


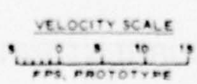
SURFACE CURRENT PATTERNS

PLAN 5B

HOURS 0-2

PHOTO 21



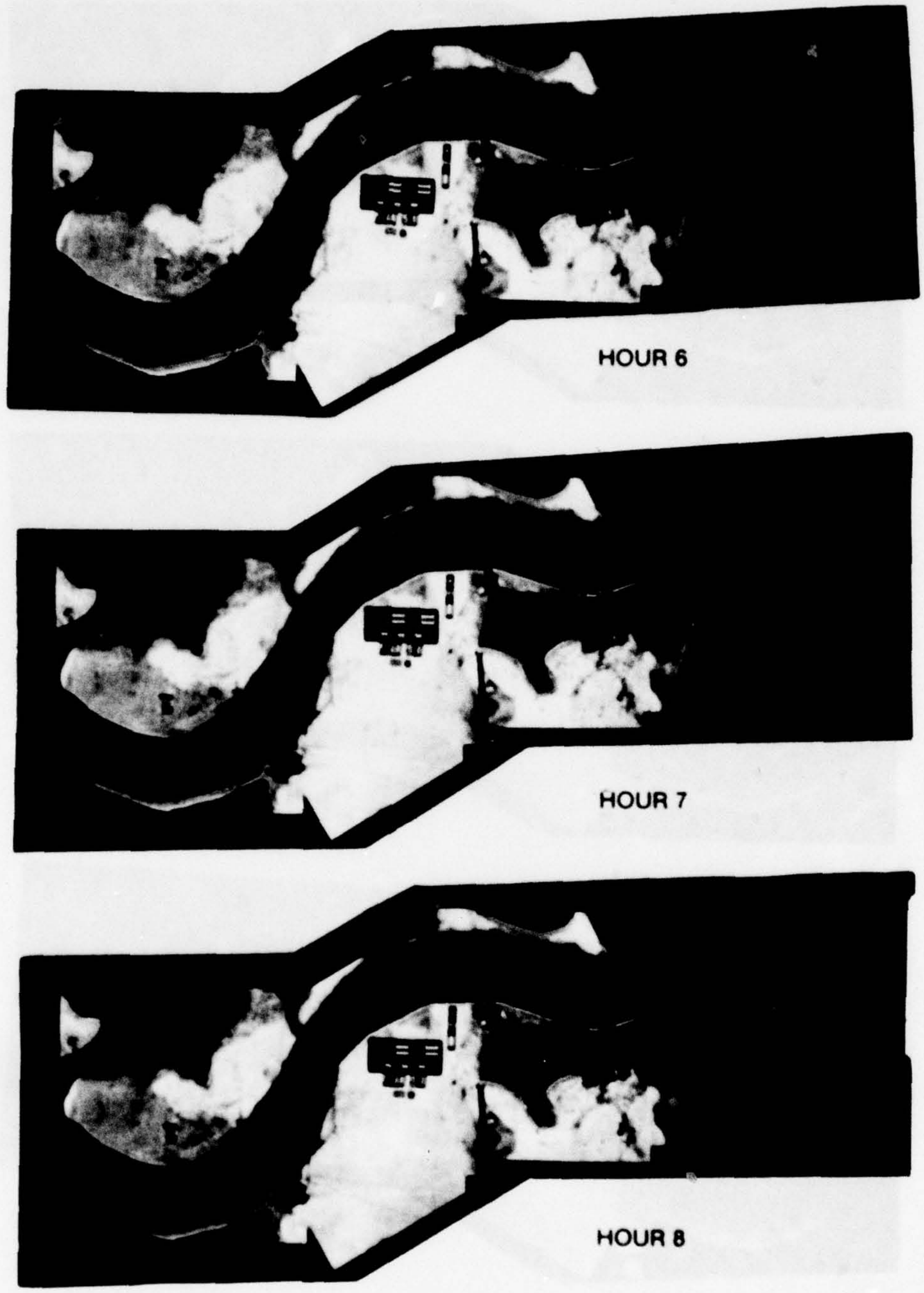


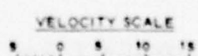
SURFACE CURRENT PATTERNS

PLAN 5B

HOURS 3-5

PHOTO 22

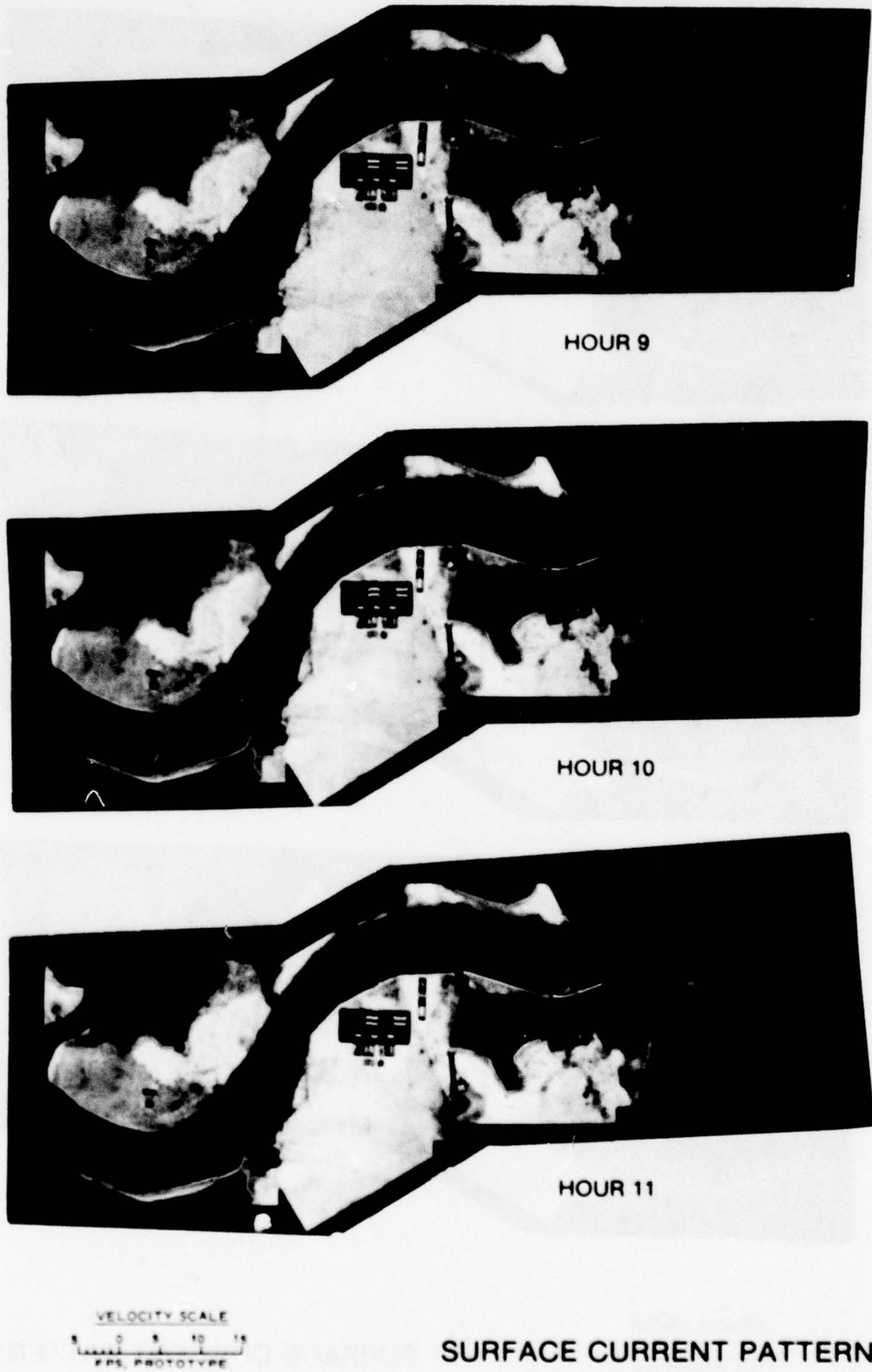




SURFACE CURRENT PATTERNS

PLAN 5B
HOURS 6-8

PHOTO 23

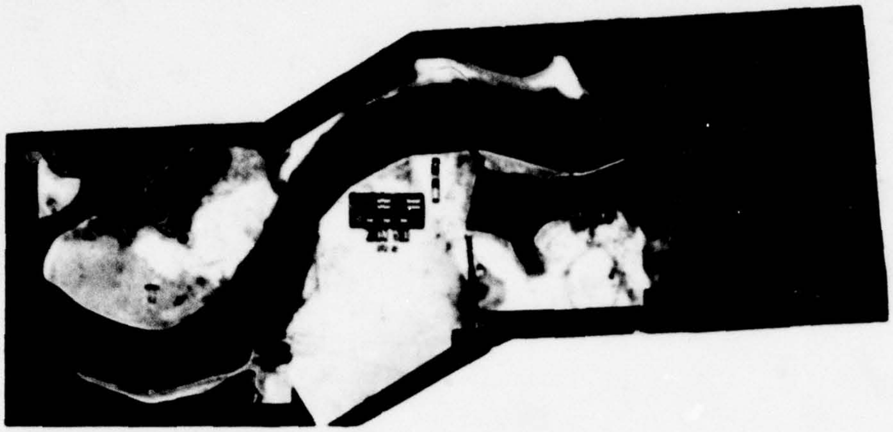


SURFACE CURRENT PATTERNS

PLAN 5B

HOURS 9-11

PHOTO 24



VELOCITY SCALE

5 0 5 10 15

FPS, PROTOTYPE

SURFACE CURRENT PATTERNS

PLAN 5B

HOUR 12

PHOTO 25

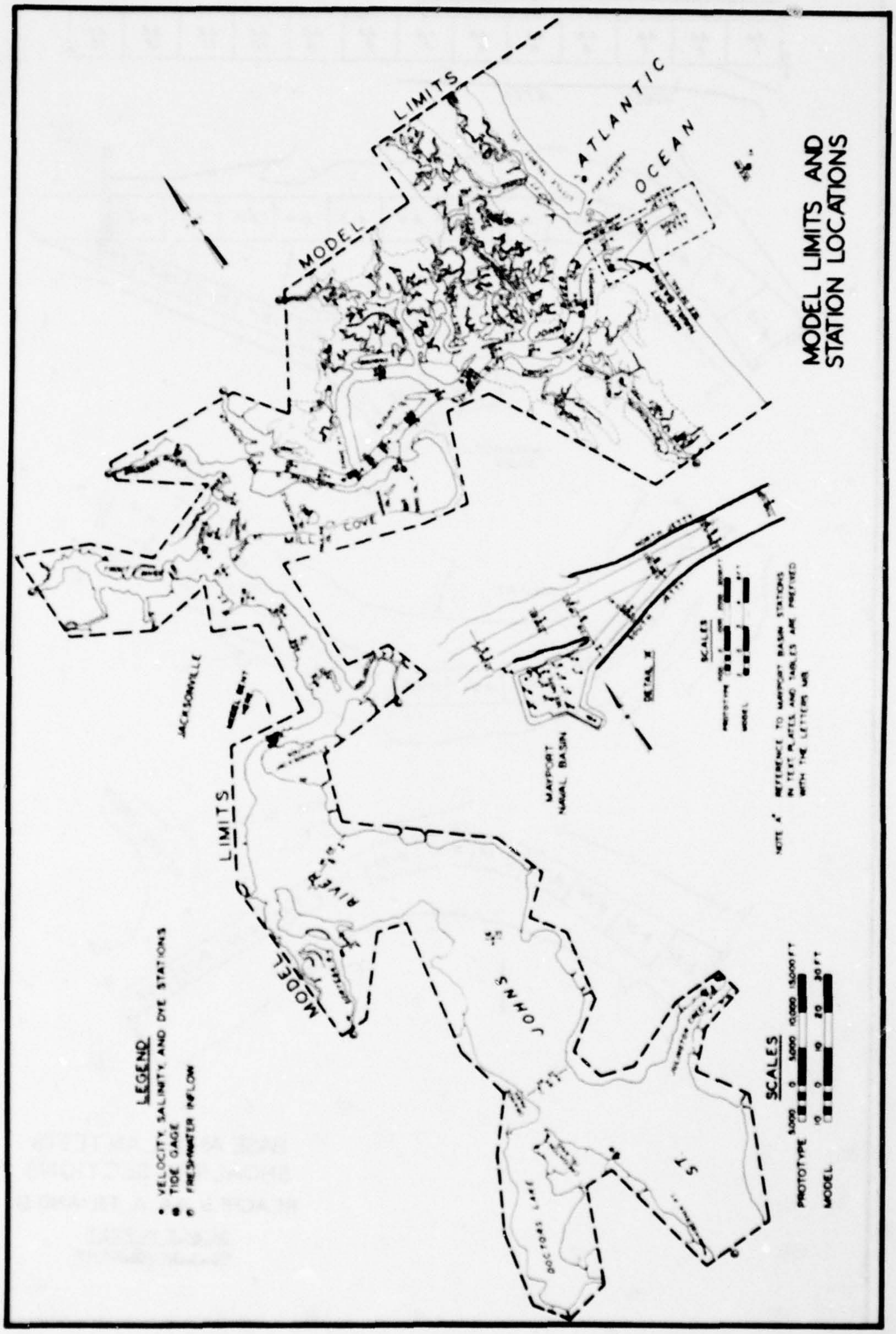
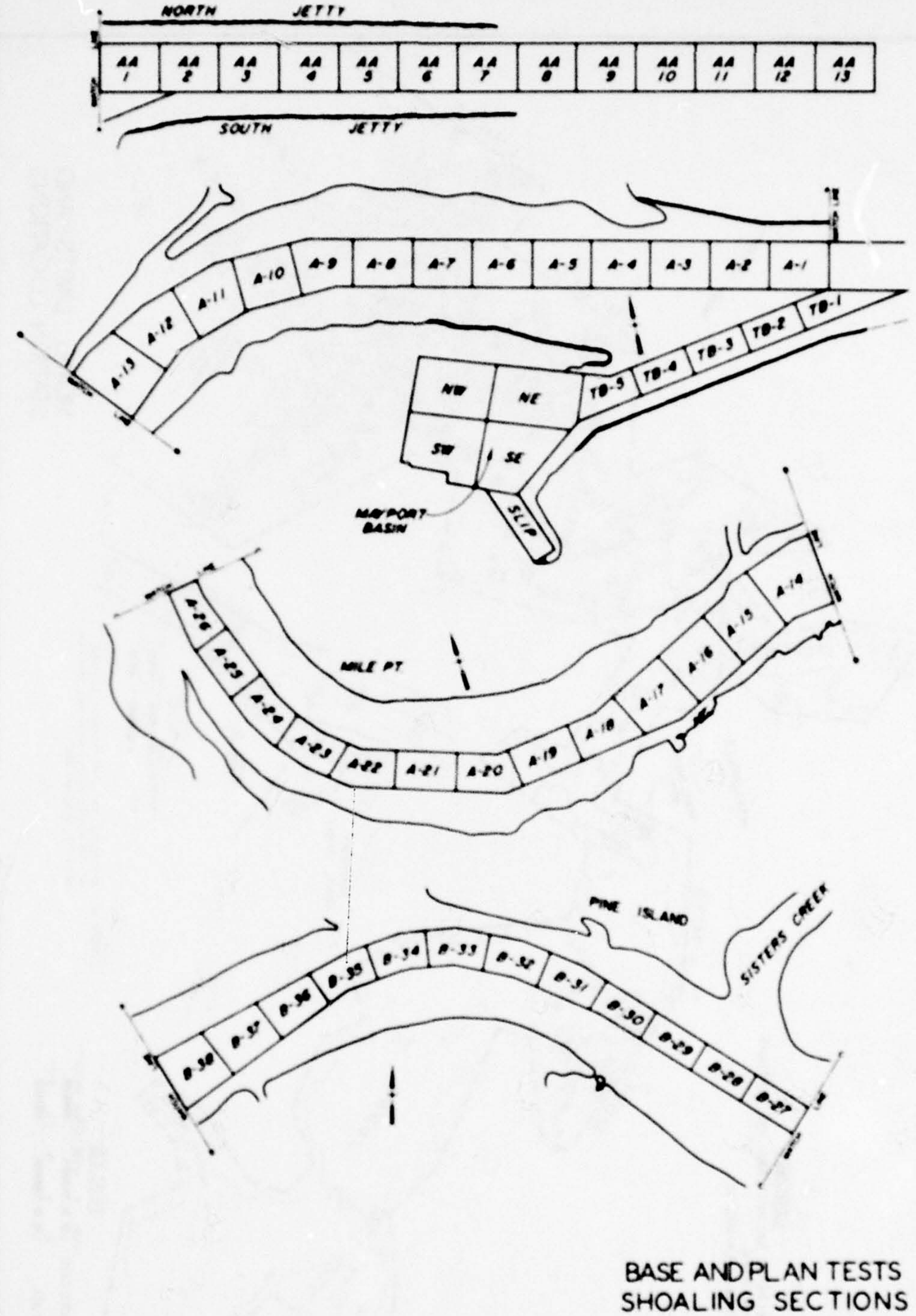

MODEL LIMITS AND STATION LOCATIONS
ATLANTIC
OCEAN
MODEL LIMITS
MODEL LIMITS
JACKSONVILLE
ST
JOHNS
RIVER
COVE
DOCTORS LAKE
MAYPORT NAVAL BASIN
DETAIL A
SCALES
PROTOTYPE
MODEL
LEGEND
VELOCITY, SALINITY, AND DYE STATIONS
TIDE GAGE
FRESHWATER INFLOW
NOTE A: REFERENCE TO MAYPORT BASIN STATIONS IN TEXT PLATES AND TABLES ARE PREFIXED WITH THE LETTERS MB

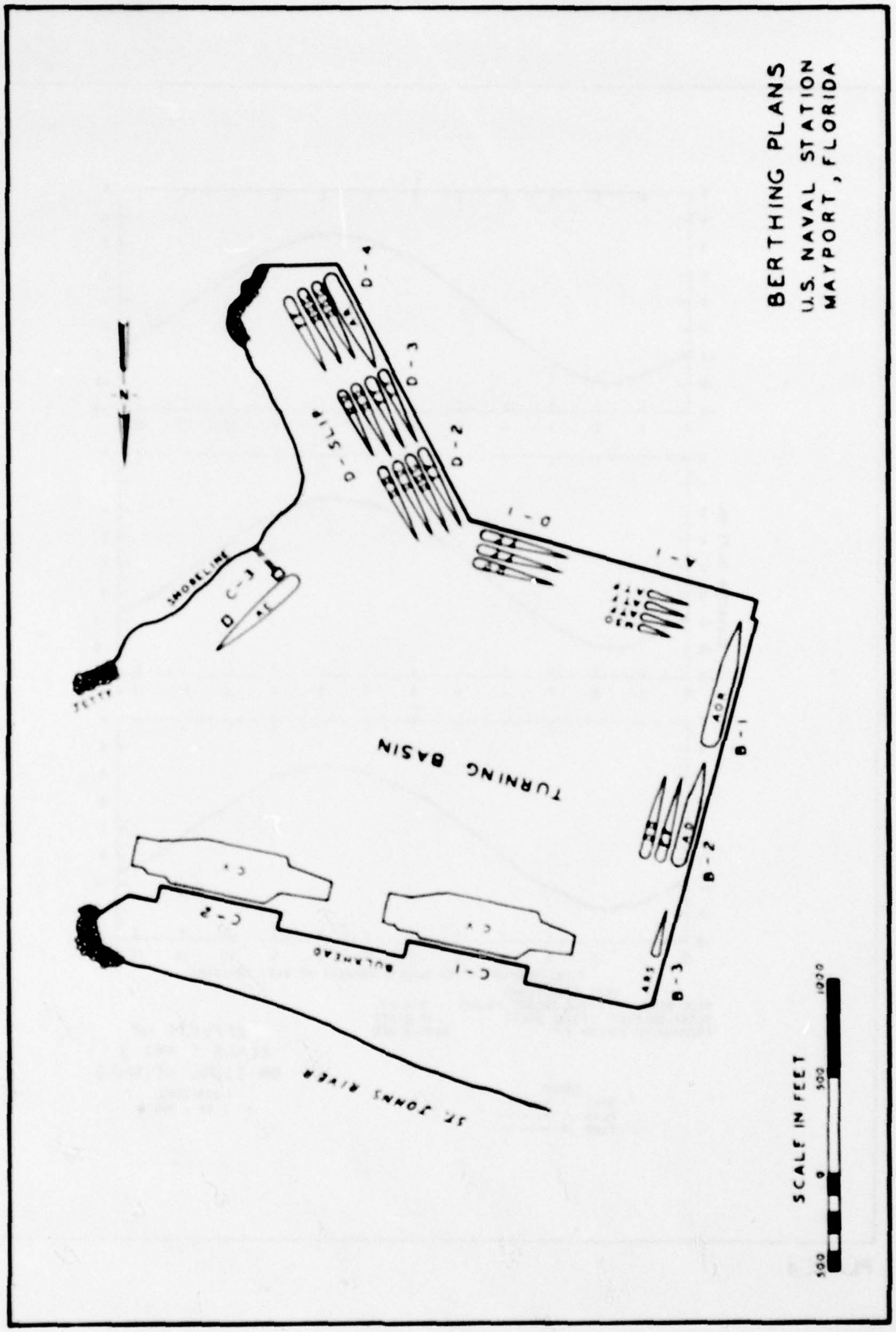
PLATE 1



BASE AND PLAN TESTS
SHOALING SECTIONS
REACHES AA, A, TB, AND B

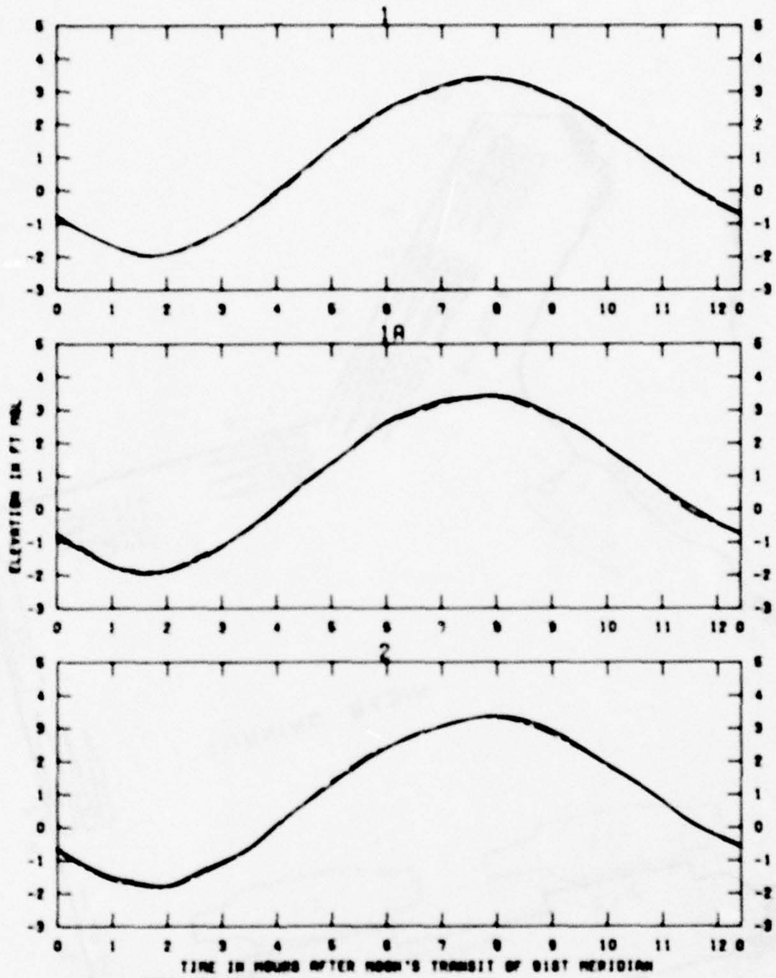
SCALE IN FEET

PLATE 2



BERTHING PLANS
U.S. NAVAL STATION
MAYPORT, FLORIDA
TURNING BASIN
D-SLIP
D-1
D-2
D-3
D-4
A-1
B-1
B-2
B-3
C-1
C-2
C-3
SHORELINE
JETTY
BULKHEAD
ST. JOHNS RIVER
CV
AOR
AD
ARS
AE
N
SCALE IN FEET
500
0
500
1000

PLATE 3

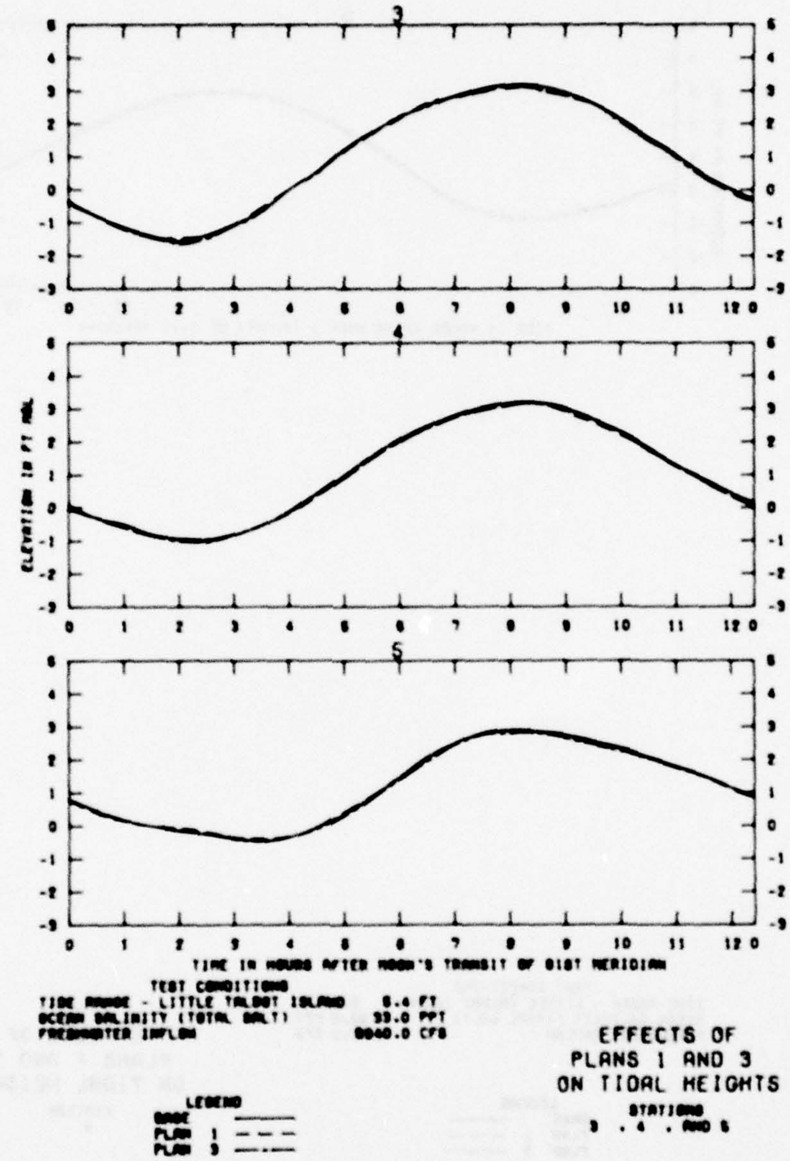


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND
BASE ————
PLAN 1 — — —
PLAN 3 —-·—

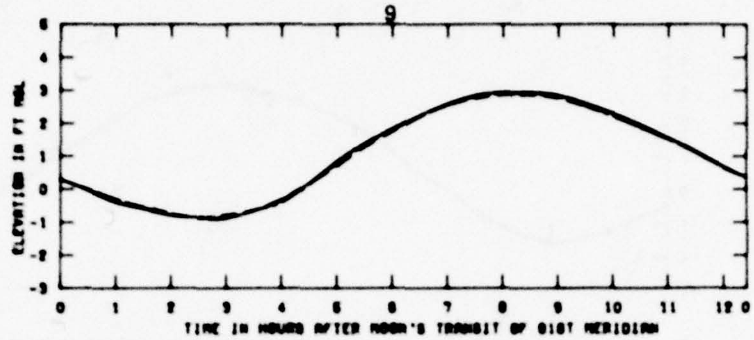
EFFECTS OF
PLANS 1 AND 3
ON TIDAL HEIGHTS
STATIONS
1 , 1A , AND 2

PLATE 4



EFFECTS OF
PLANS 1 AND 3
ON TIDAL HEIGHTS

PLATE 5



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

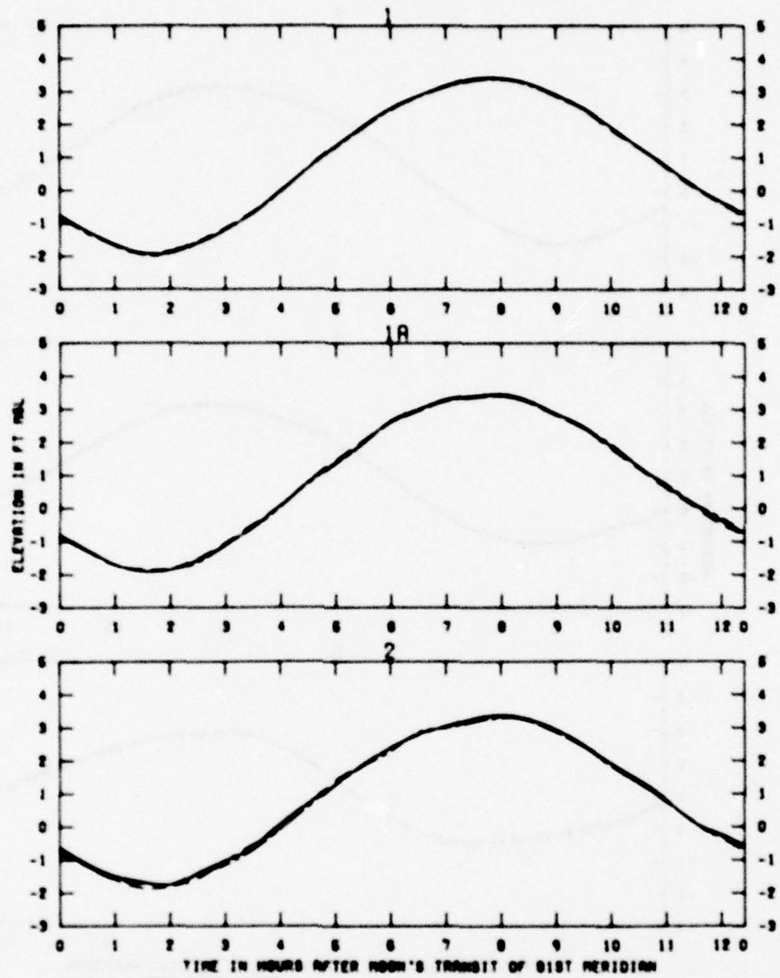
LEGEND

BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON TIDAL HEIGHTS

STATION
9

PLATE 6



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

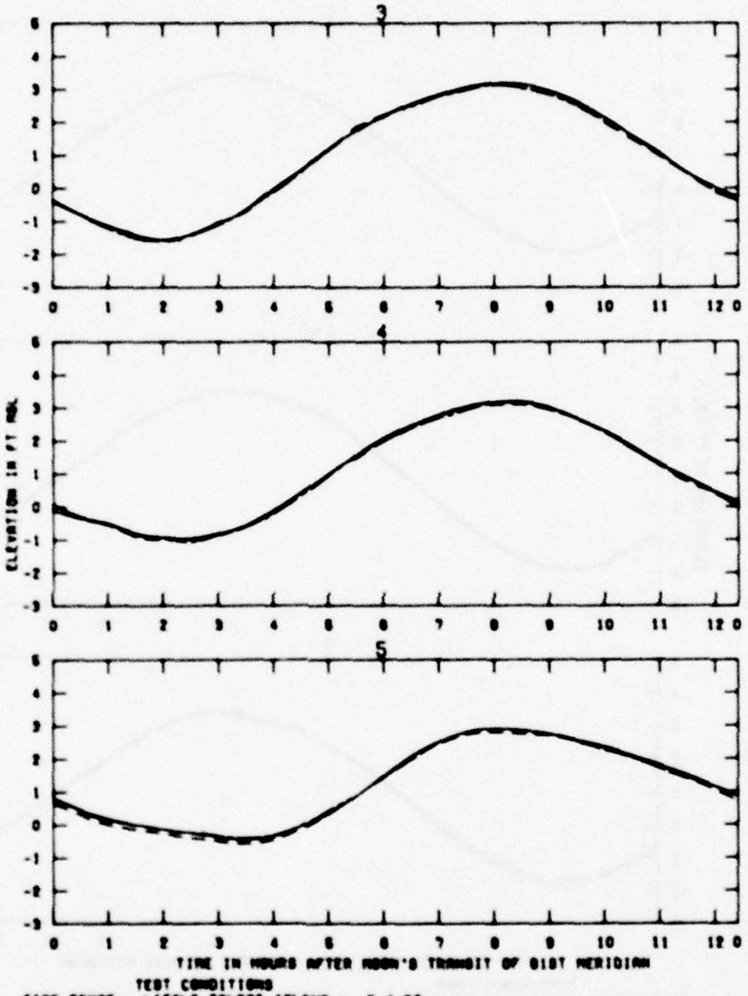
BASE ———

PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON TIDAL HEIGHTS

STATIONS
1 . 1A . AND 2



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———

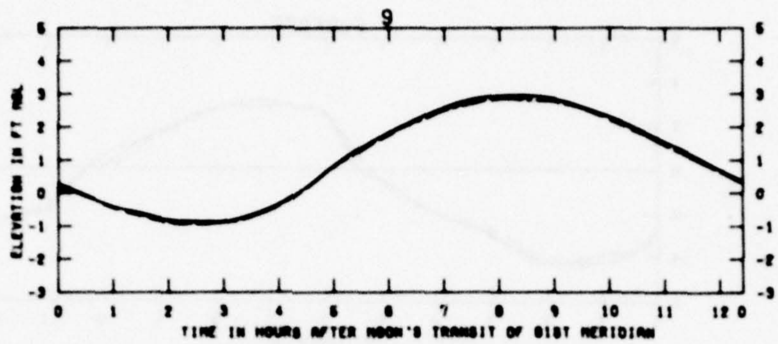
PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON TIDAL HEIGHTS

STATIONS
3 , 4 , AND 5

PLATE 8



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

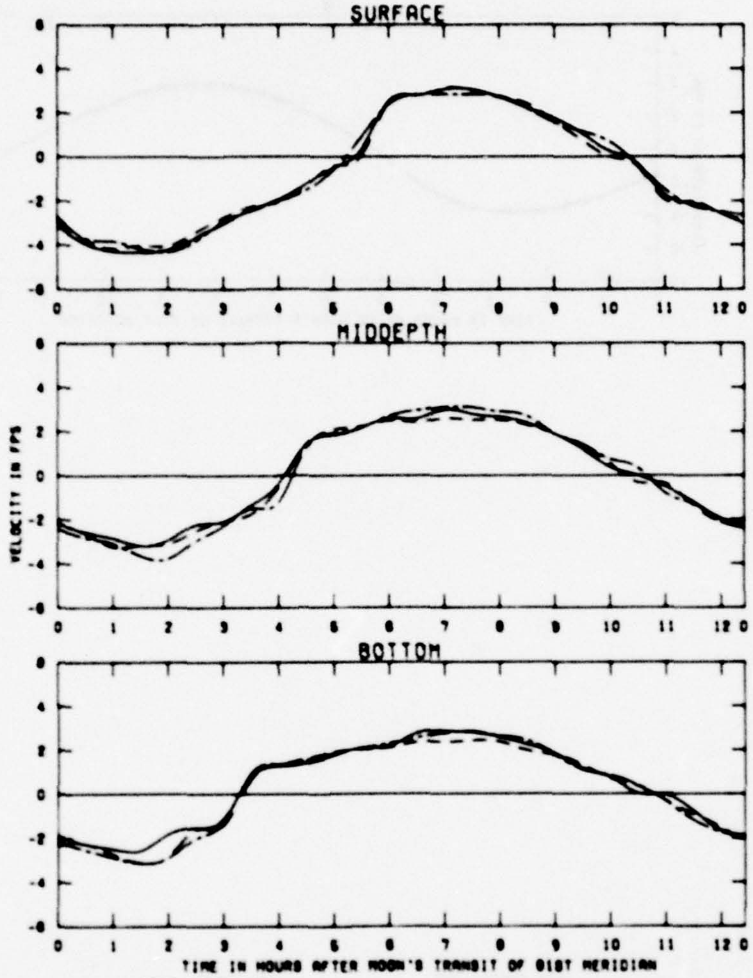
LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON TIDAL HEIGHTS

STATION
9

PLATE 9



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

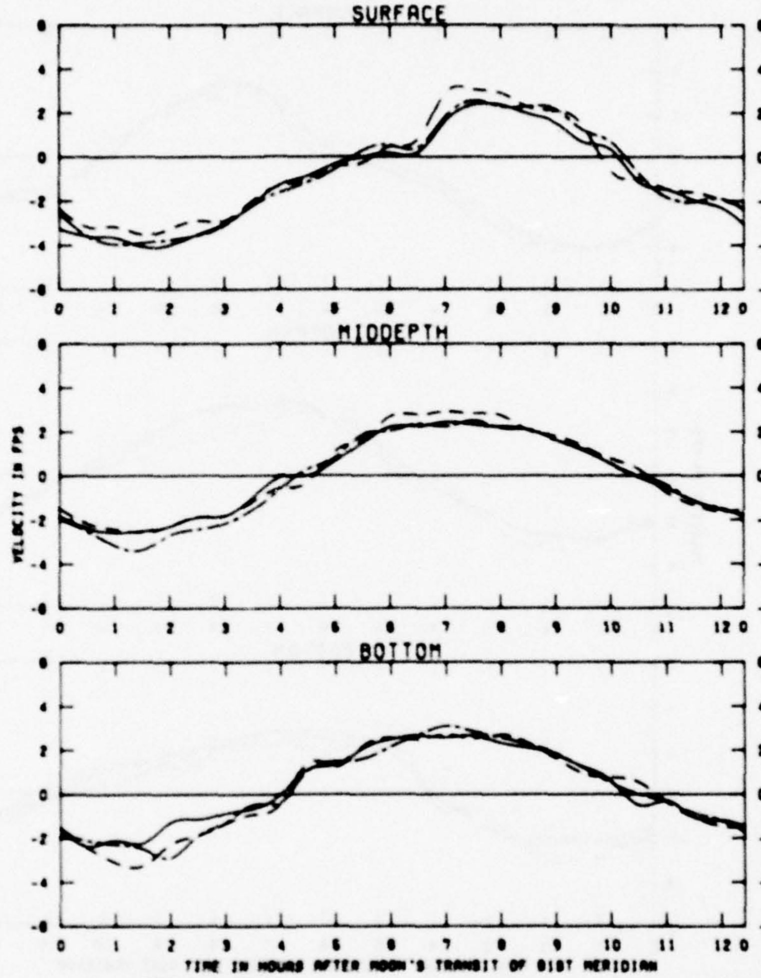
LEGEND

BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
YA

PLATE 10



TEST CONDITIONS

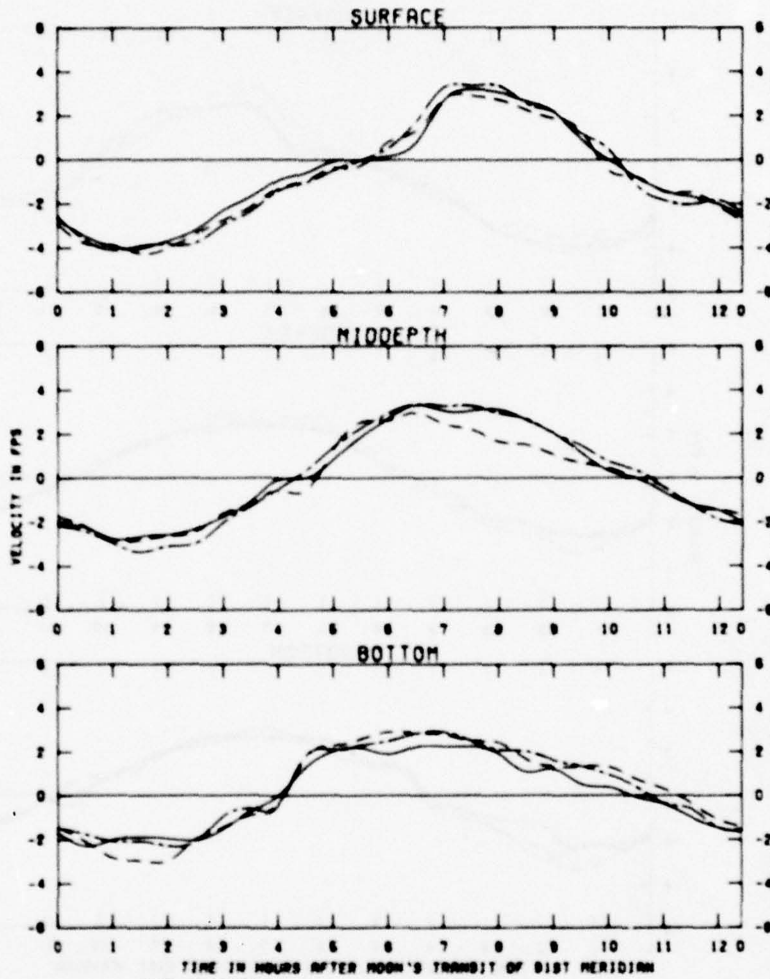
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

LEGEND

BASE ———
PLAN 1 – – –
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
2A



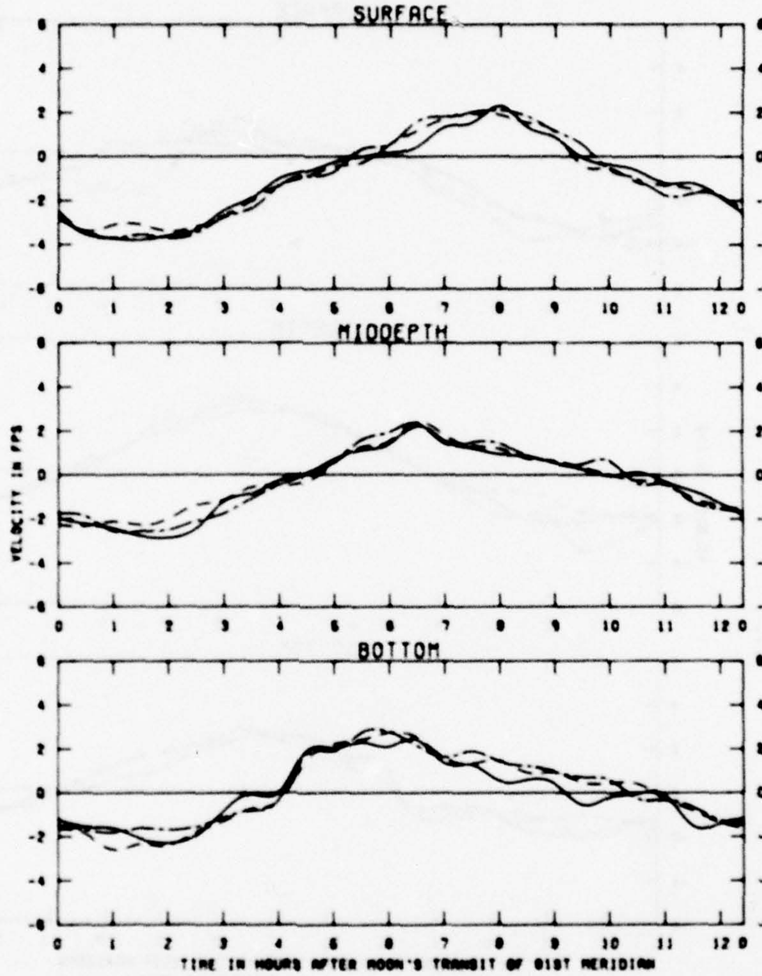
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 6.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND
BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
28

PLATE 12



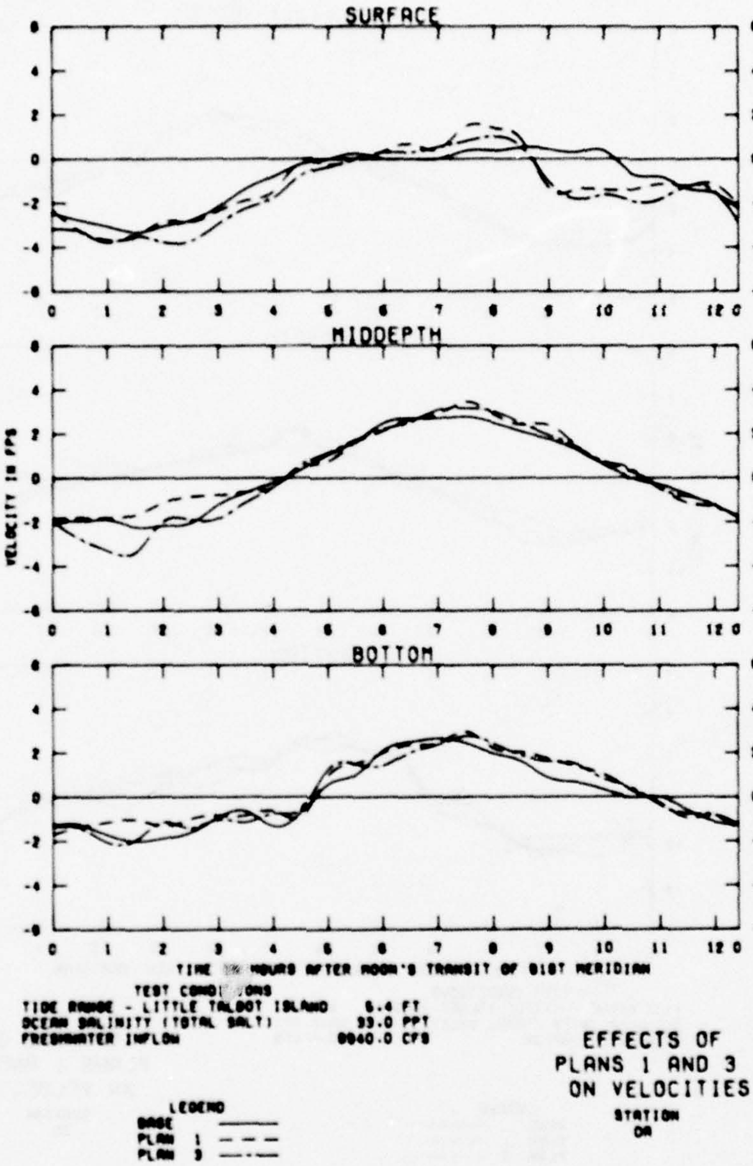
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF PLANS 1 AND 3 ON VELOCITIES

STATION 2C

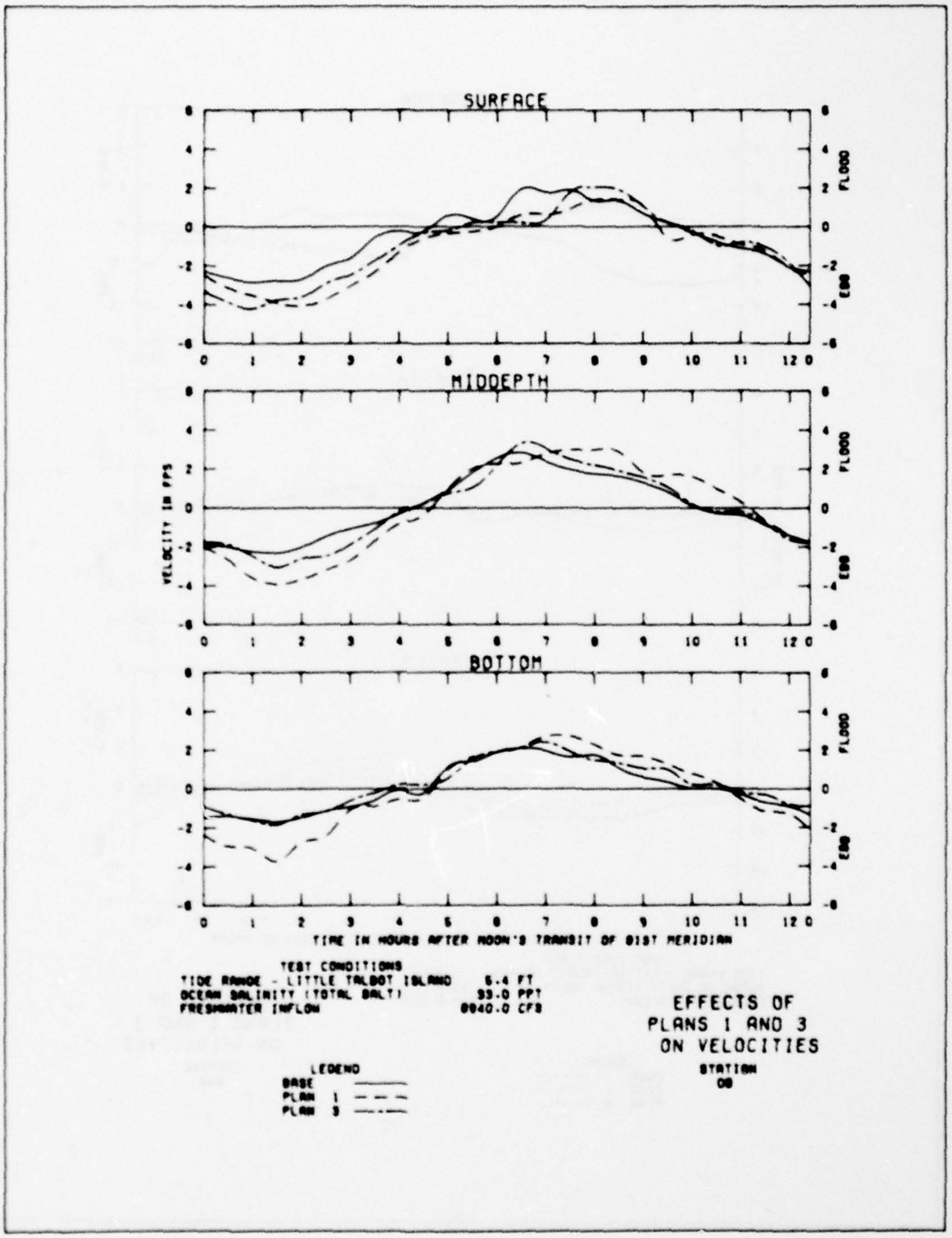
PLATE 13



EFFECTS OF PLANS 1 AND 3 ON VELOCITIES

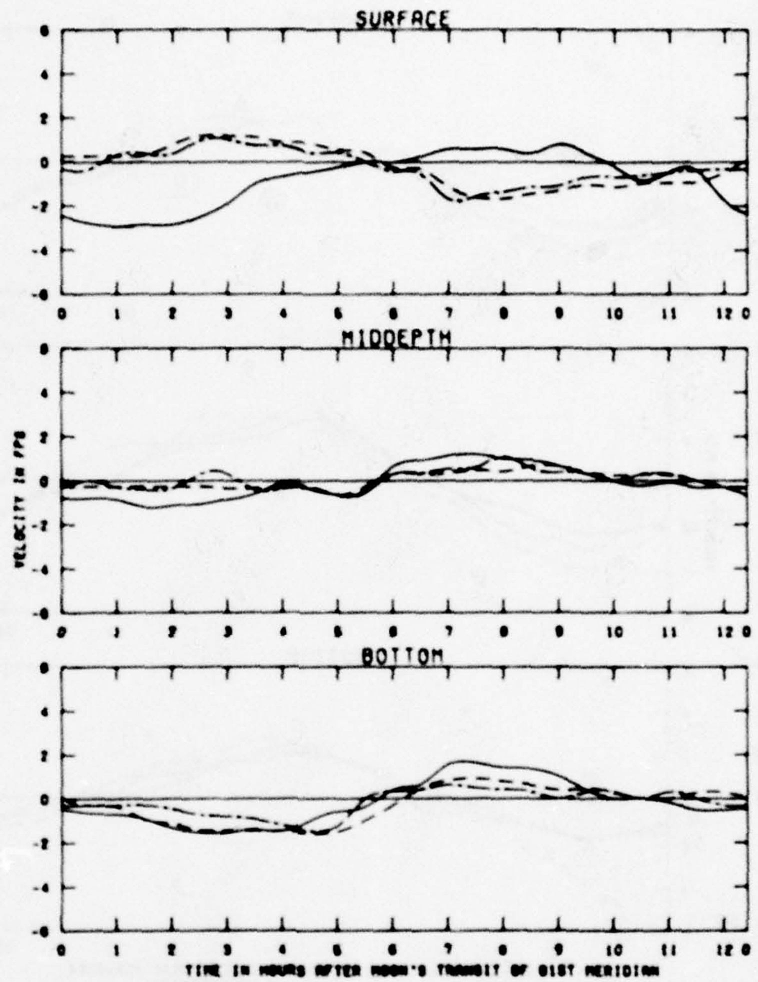
STATION OR

PLATE 14



SURFACE
MIDDEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS
LEGEND
BASE
PLAN 1
PLAN 3
EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES
STATION
08

PLATE 15



TEST CONDITIONS

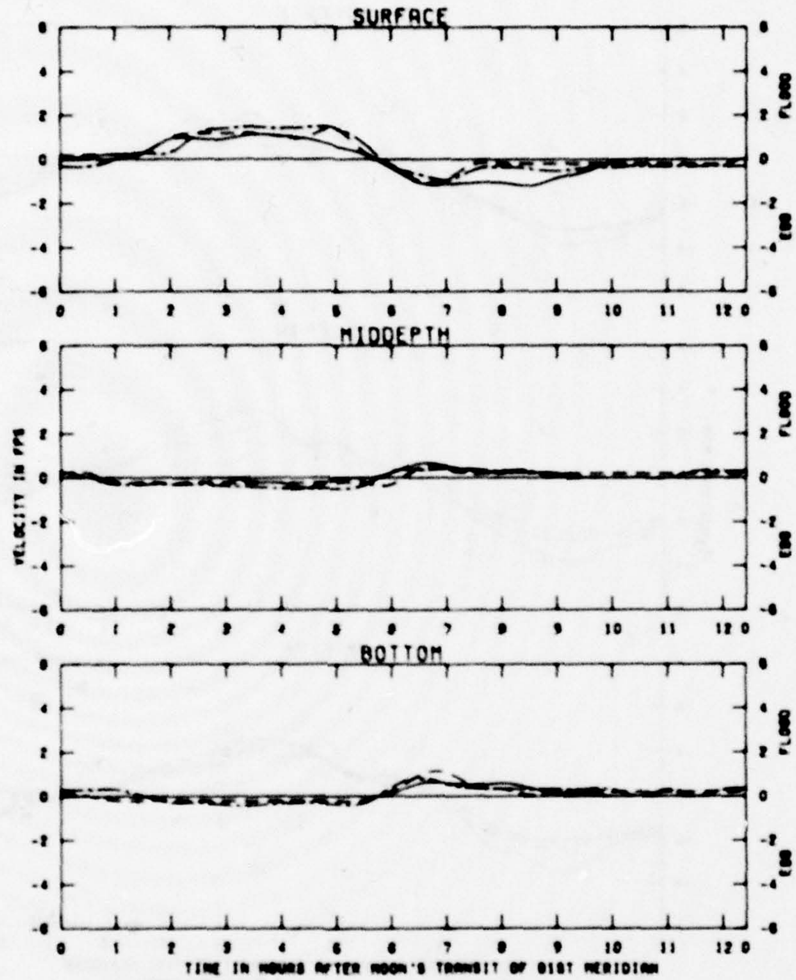
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
DRA

PLATE 16



TEST CONDITIONS

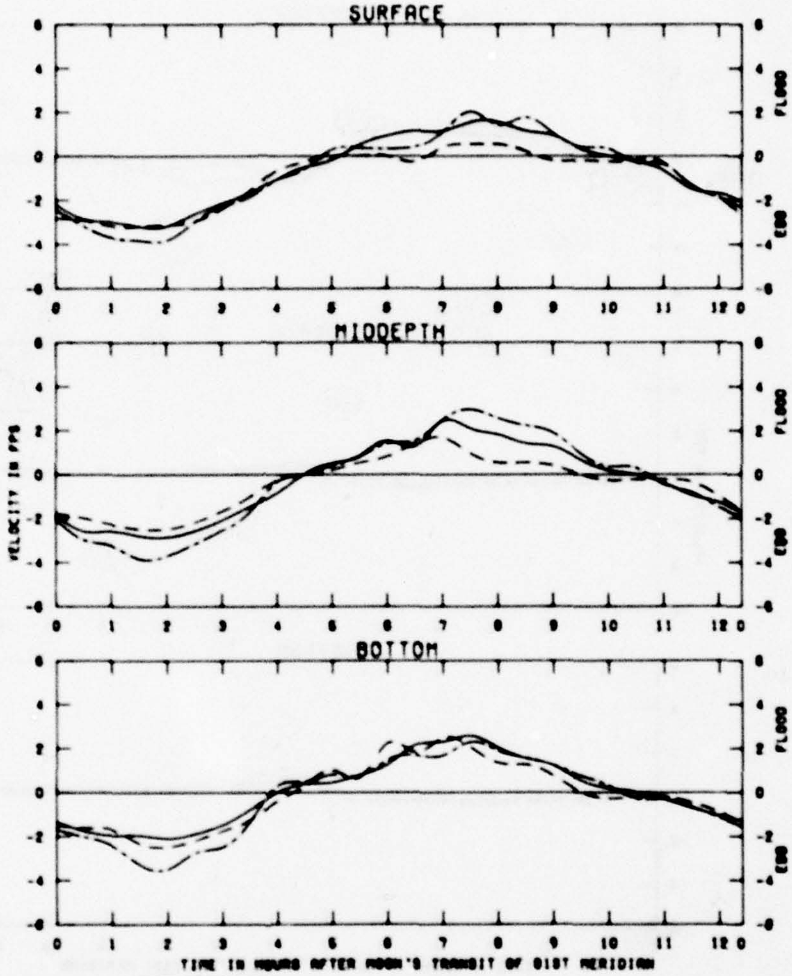
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND
BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
08A

PLATE 17



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

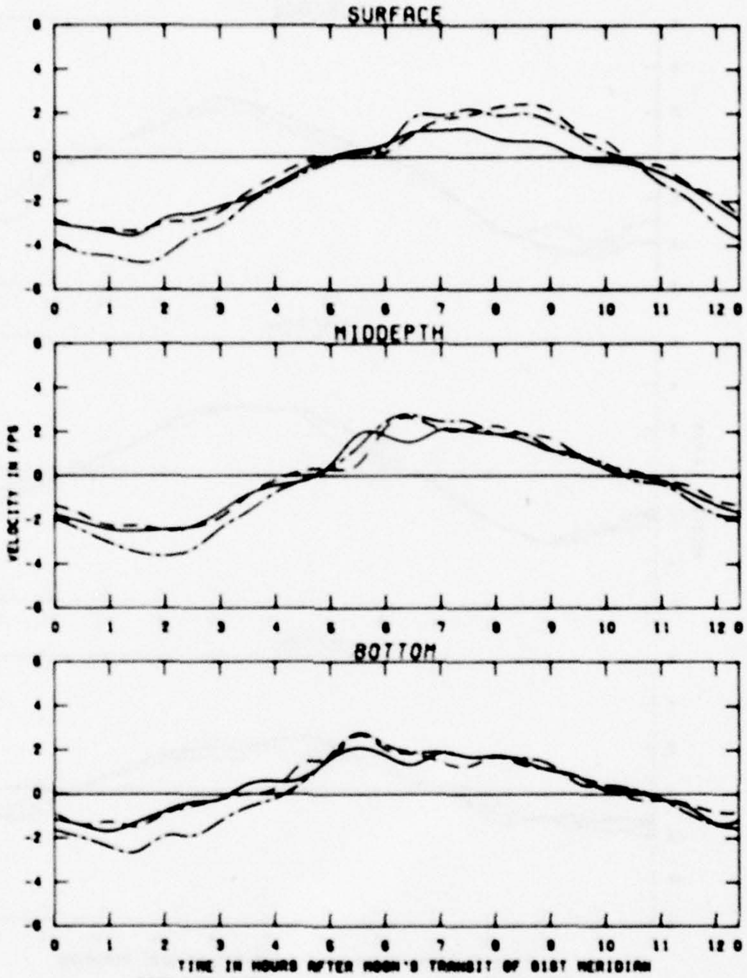
LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
DDD

PLATE 18



TEST CONDITIONS

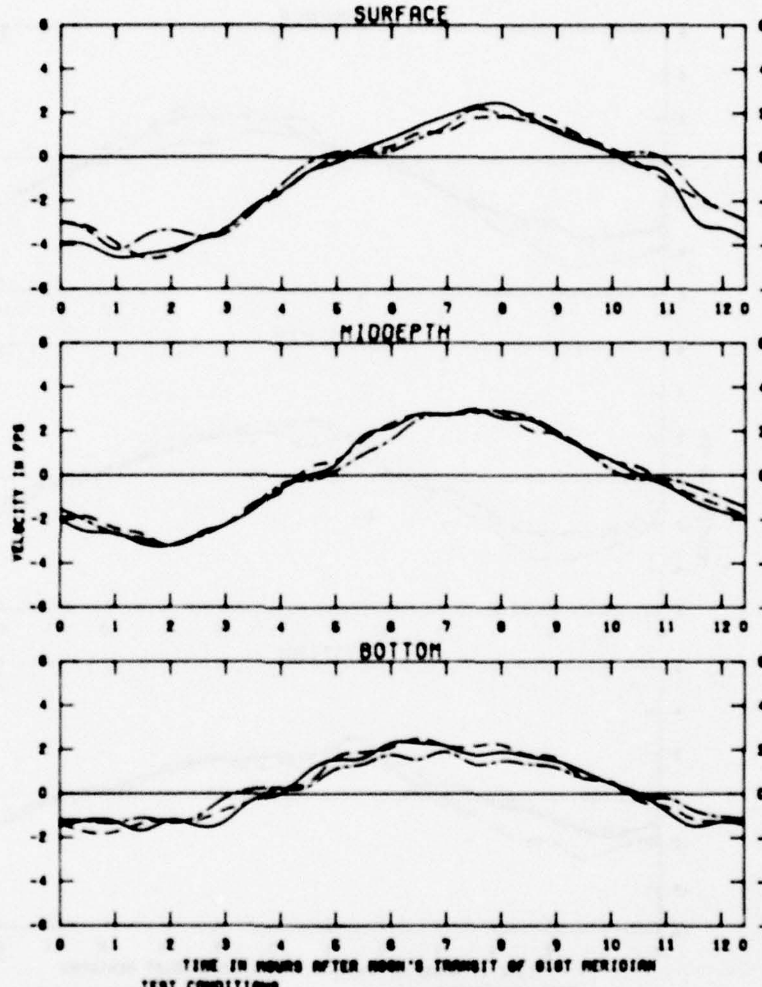
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
DBC



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ————

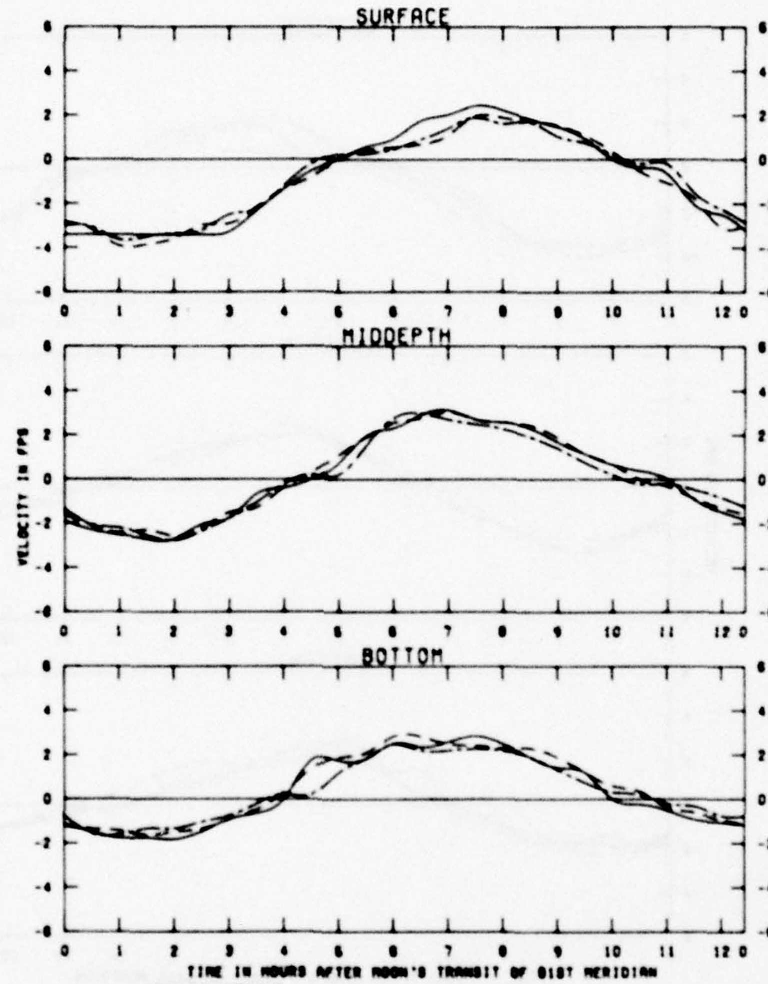
PLAN 1 — — —

PLAN 3 —·—

EFFECTS OF PLANS 1 AND 3 ON VELOCITIES

STATION
1AA

PLATE 20



TEST CONDITIONS

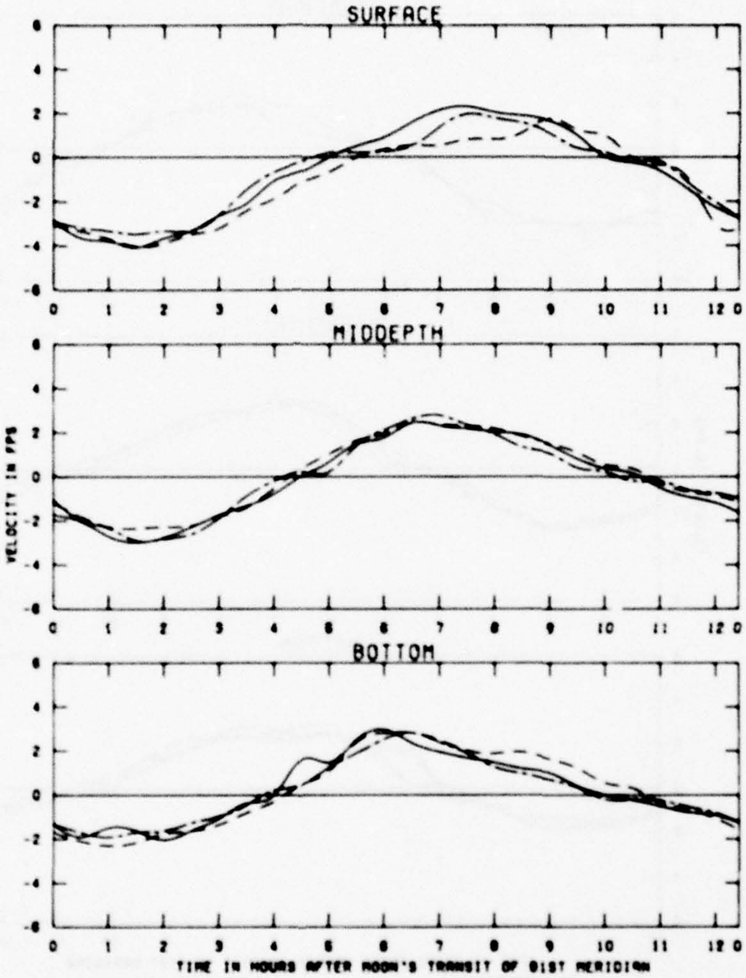
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
1A0



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

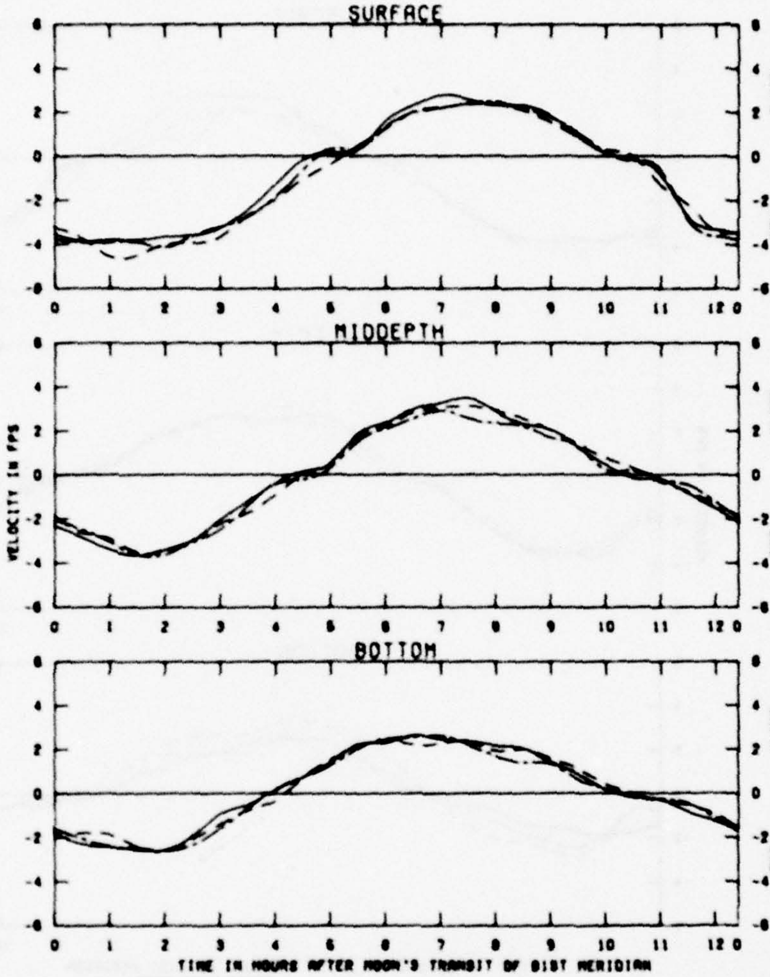
LEGEND

BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
1AC

PLATE 22



TEST CONDITIONS

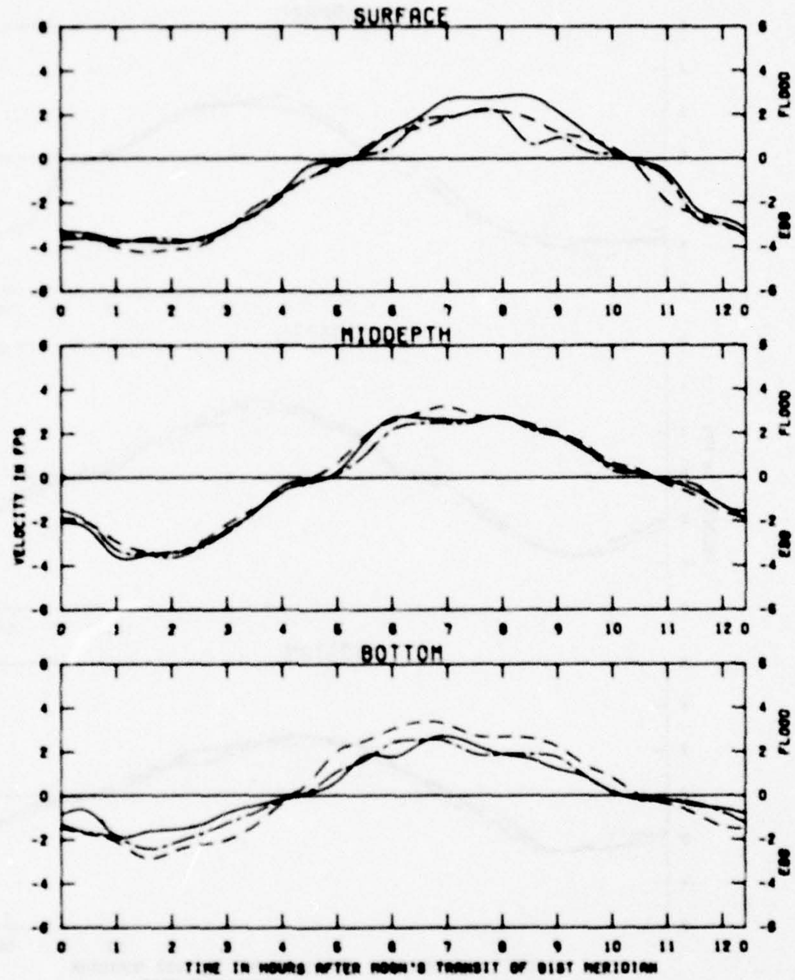
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND

BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
2AA



TEST CONDITIONS

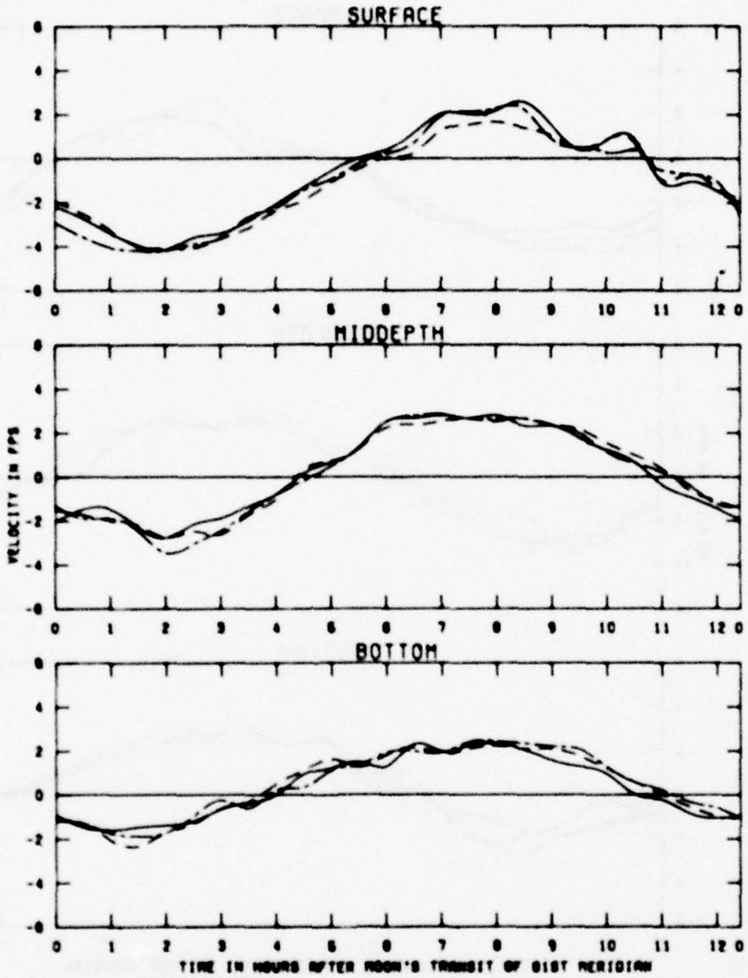
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
9A

PLATE 24



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

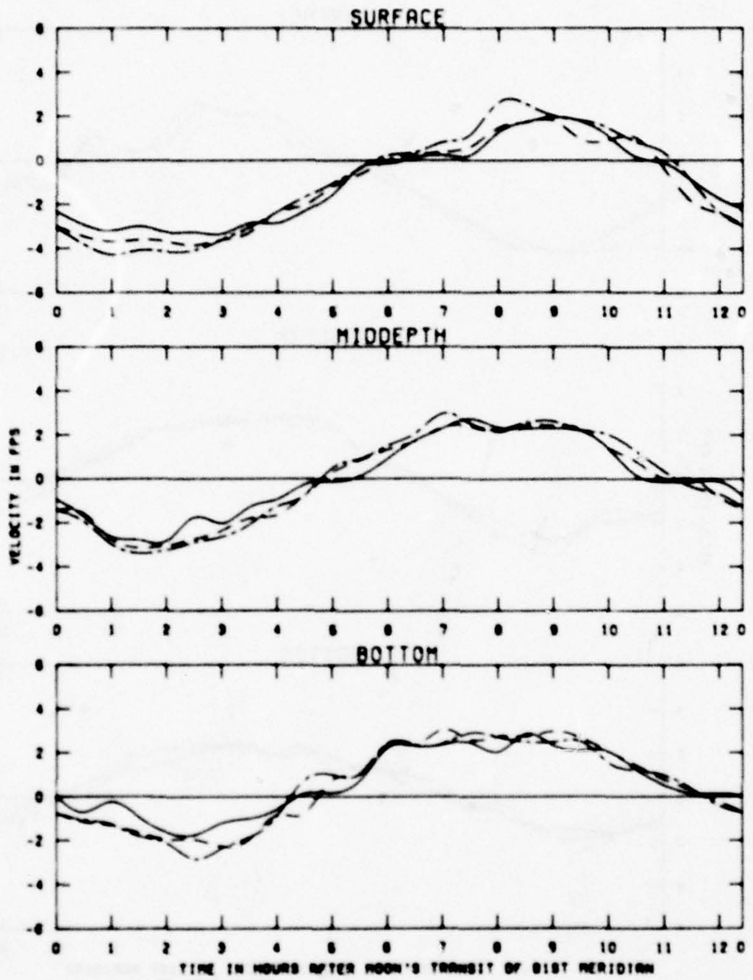
BASE ———

PLAN 1 – – –

PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
6A



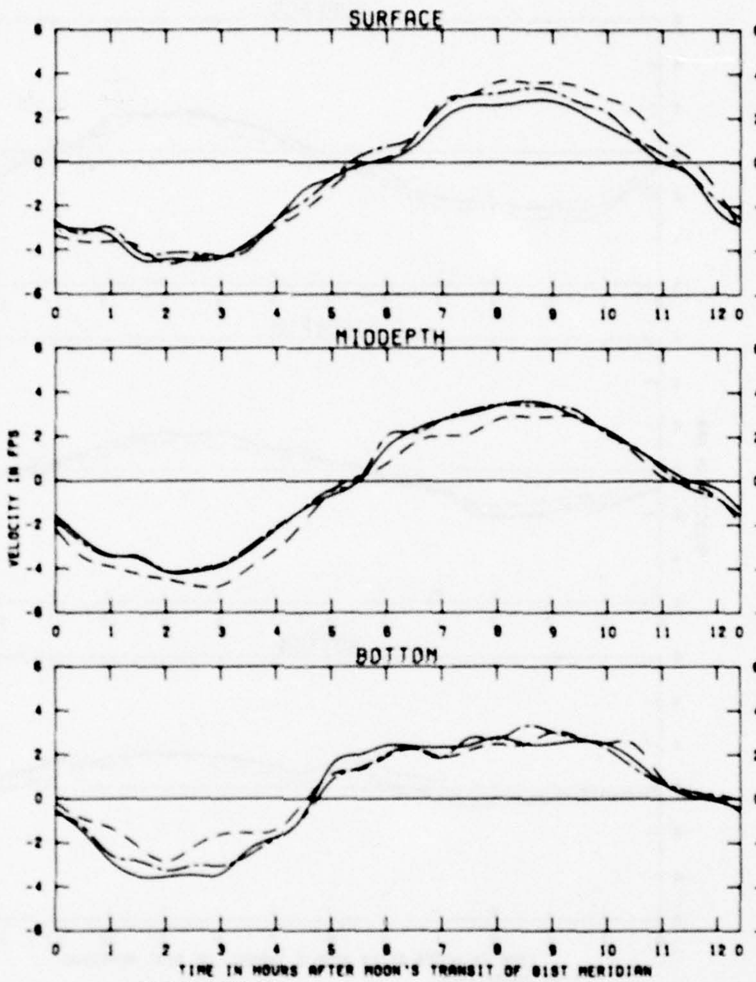
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS

LEGEND
BASE ———
PLAN 1 – – –
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
70

PLATE 26



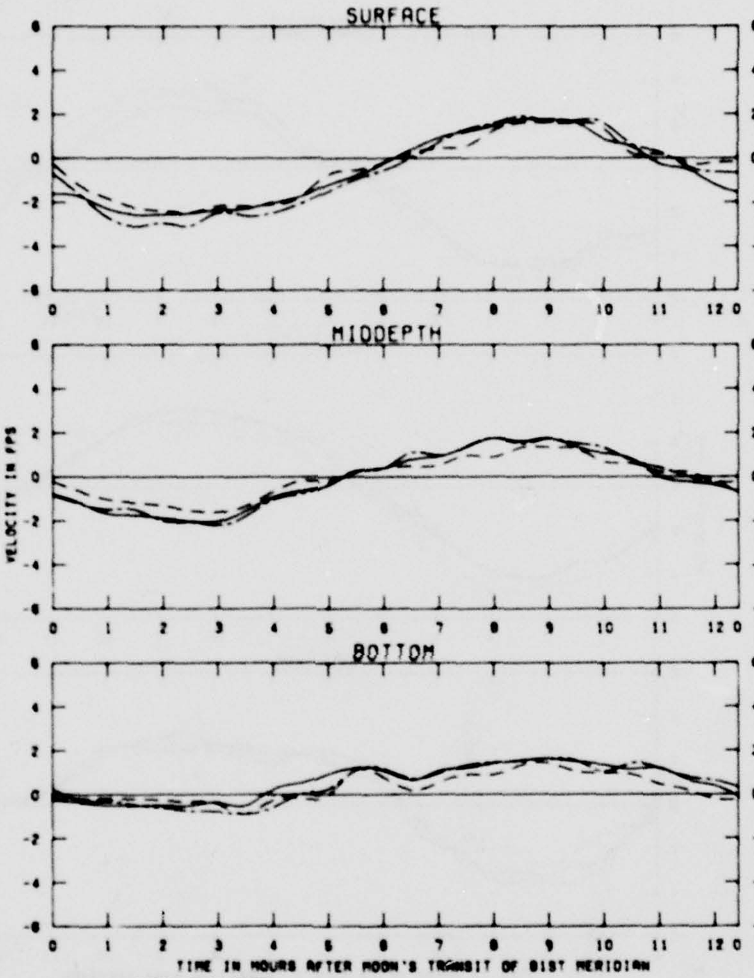
TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

LEGEND
BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
9B



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

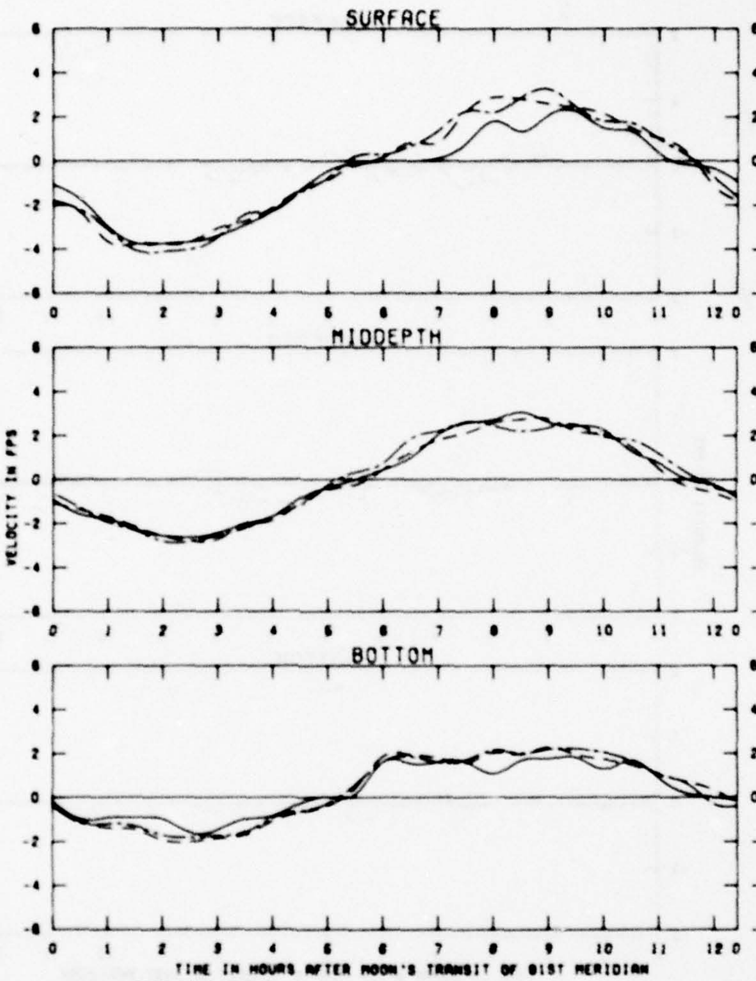
LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
9AB

PLATE 28



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4	FT
OCEAN SALINITY (TOTAL SALT)	33.0	PPT
FRESHWATER INFLOW	8940.0	CFS

LEGEND

BASE ———

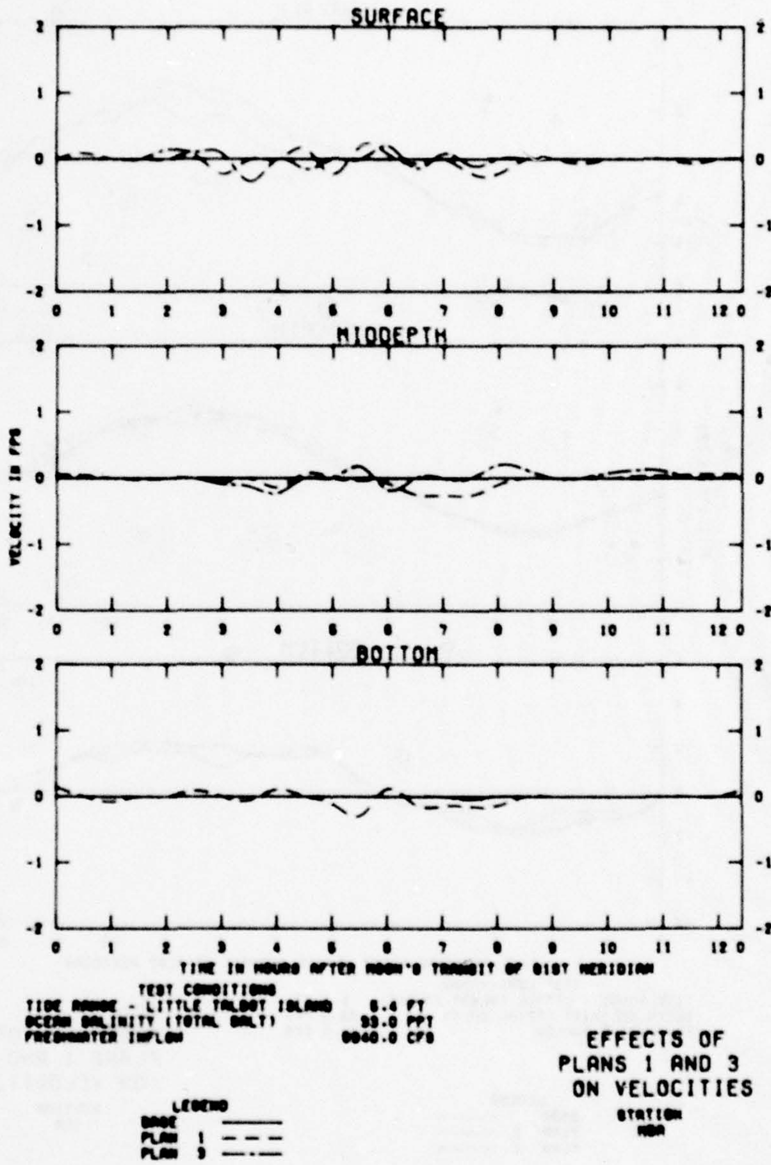
PLAN 1 — — —

PLAN 3 —·—·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
10A

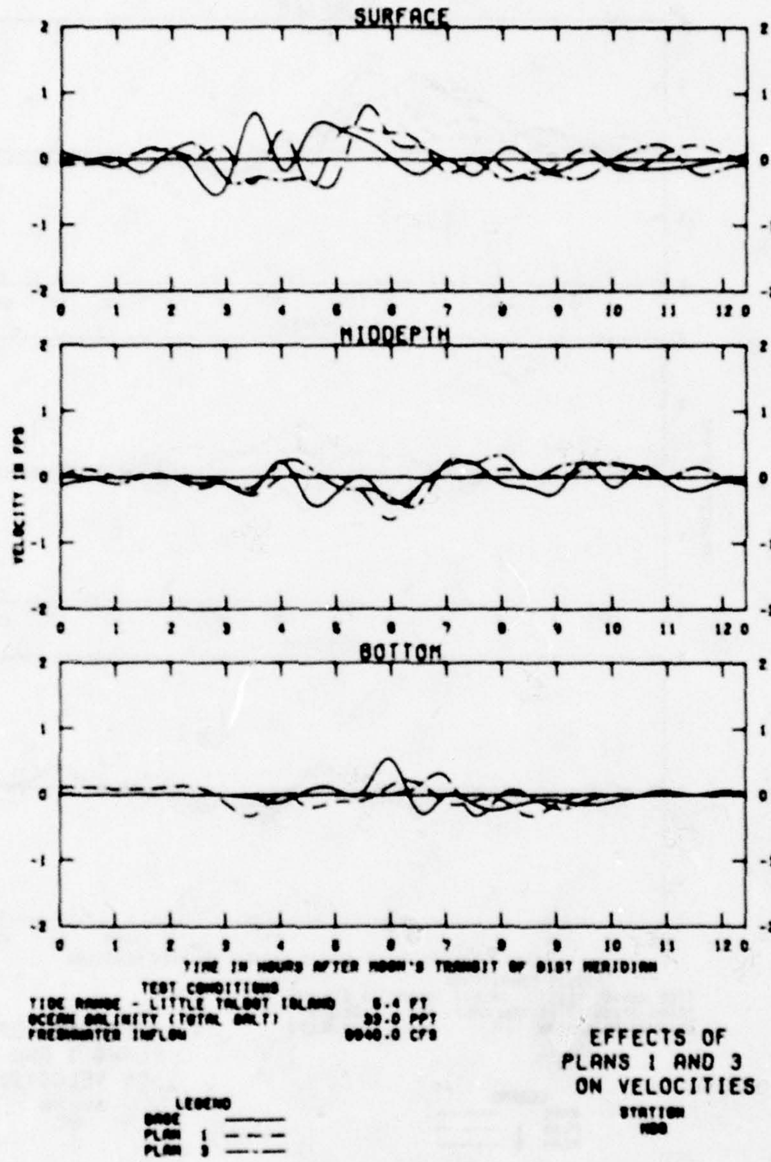
PLATE 29



EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

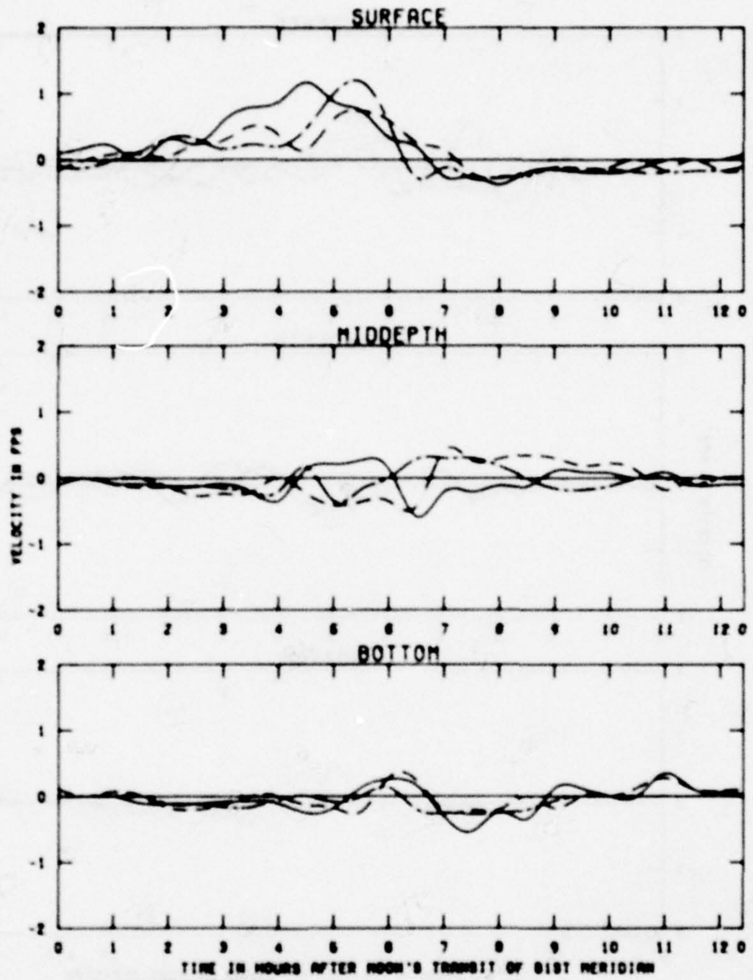
STATION

PLATE 30



EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

PLATE 31



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

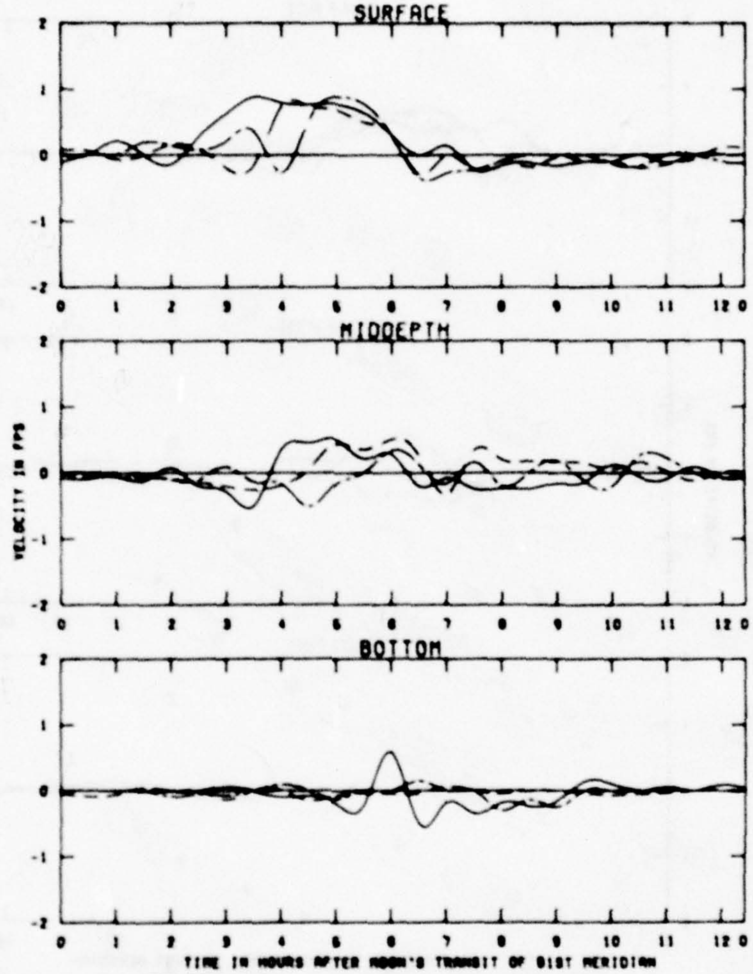
LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
NBC

PLATE 32



TEST CONDITIONS

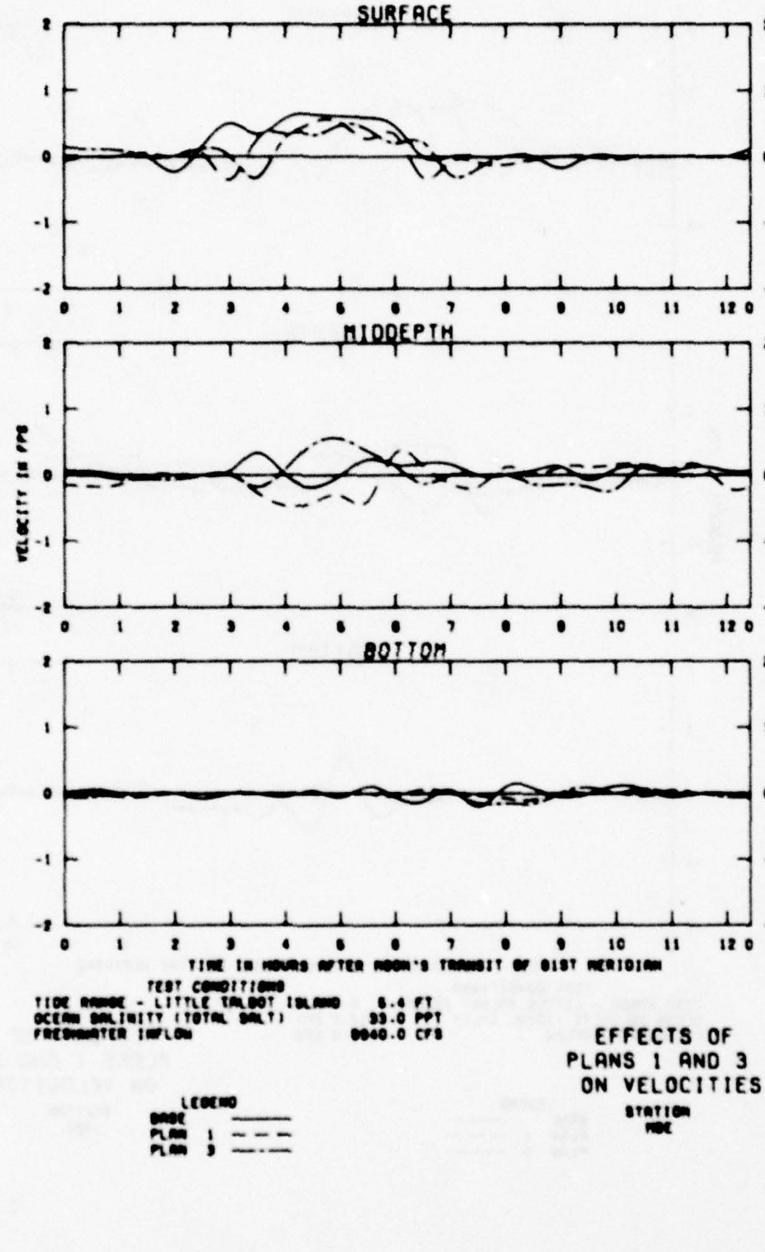
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
ABD



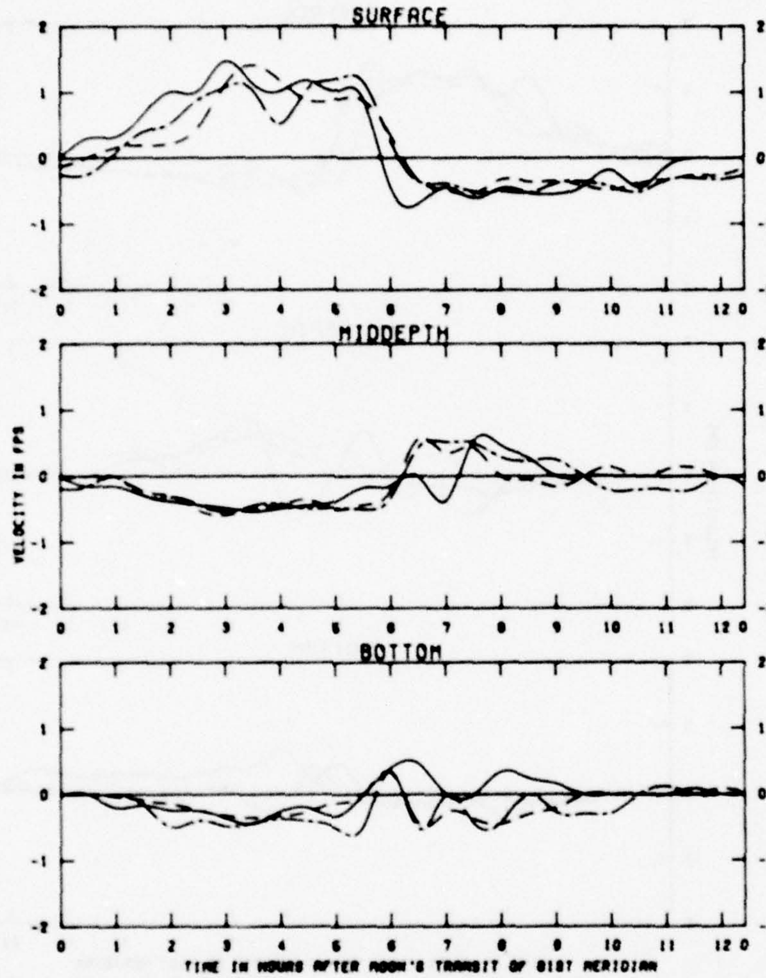
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
MDE

PLATE 34



TEST CONDITIONS

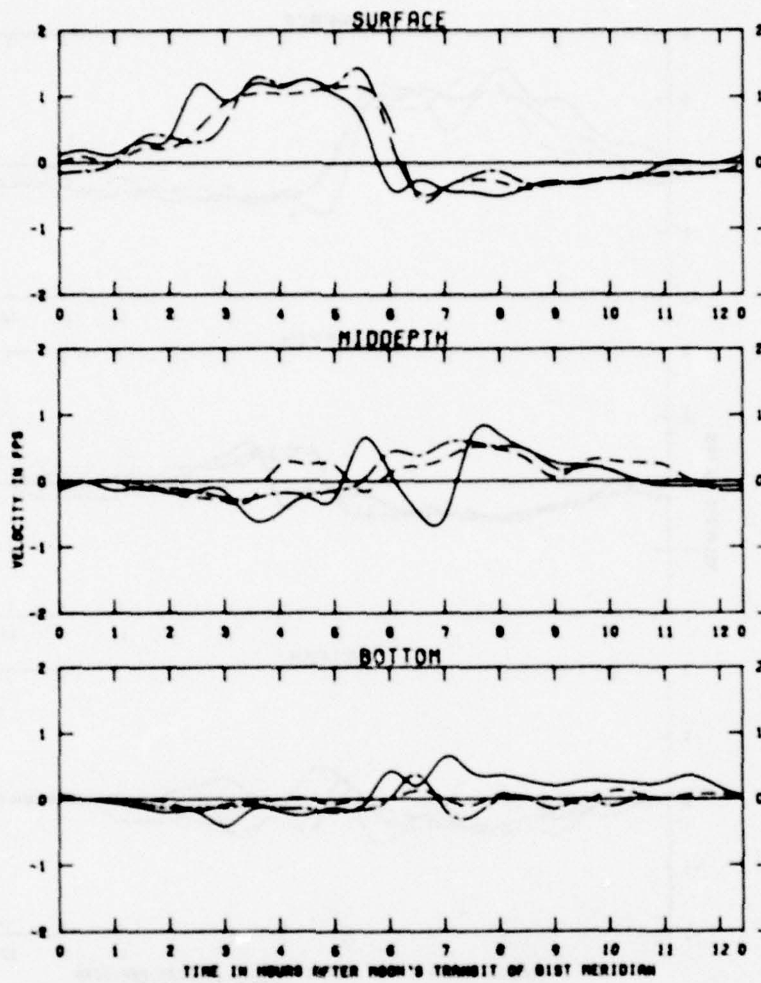
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
MDF



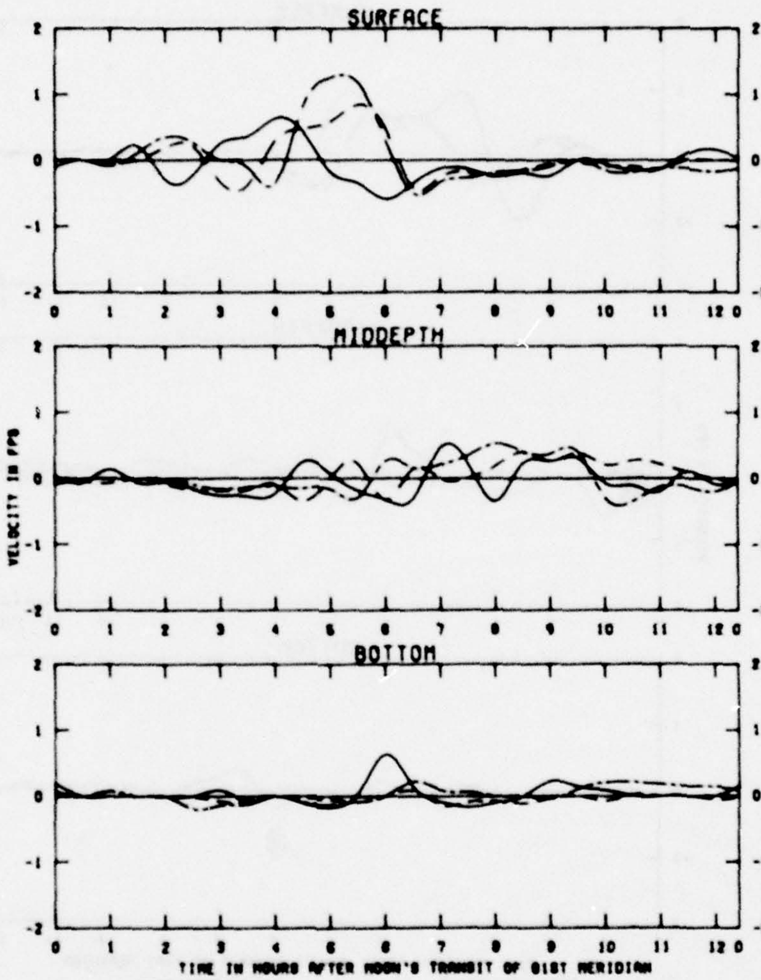
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 6.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND
BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION

PLATE 36



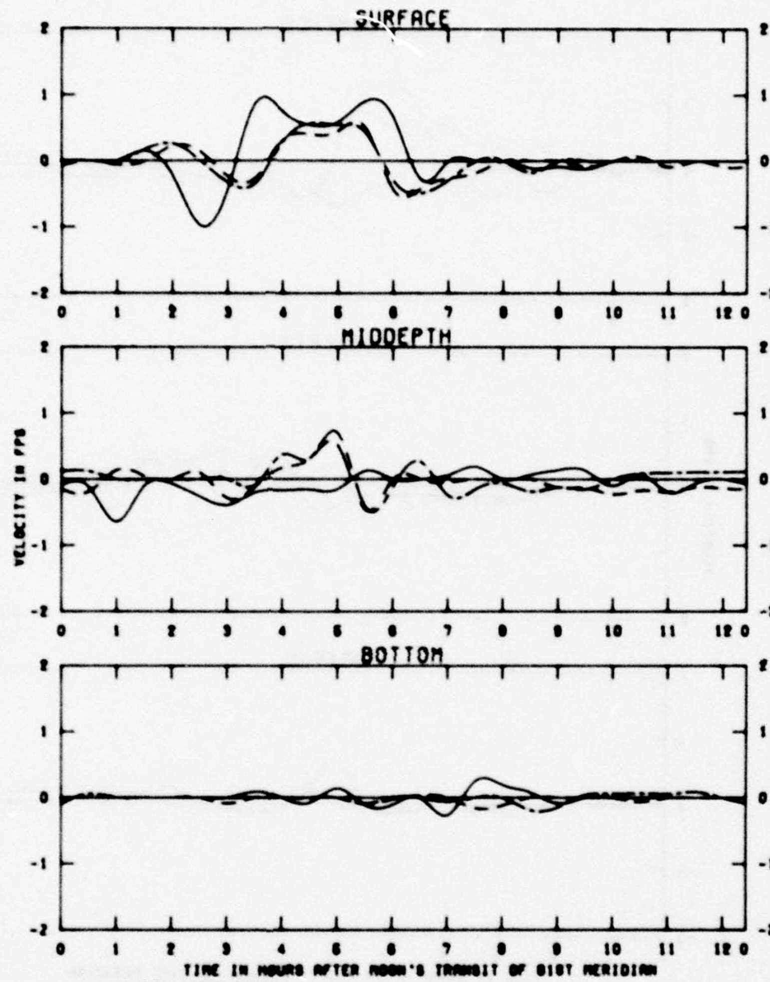
TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

LEGEND
BASE
PLAN 1
PLAN 3

STATION
MDM



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

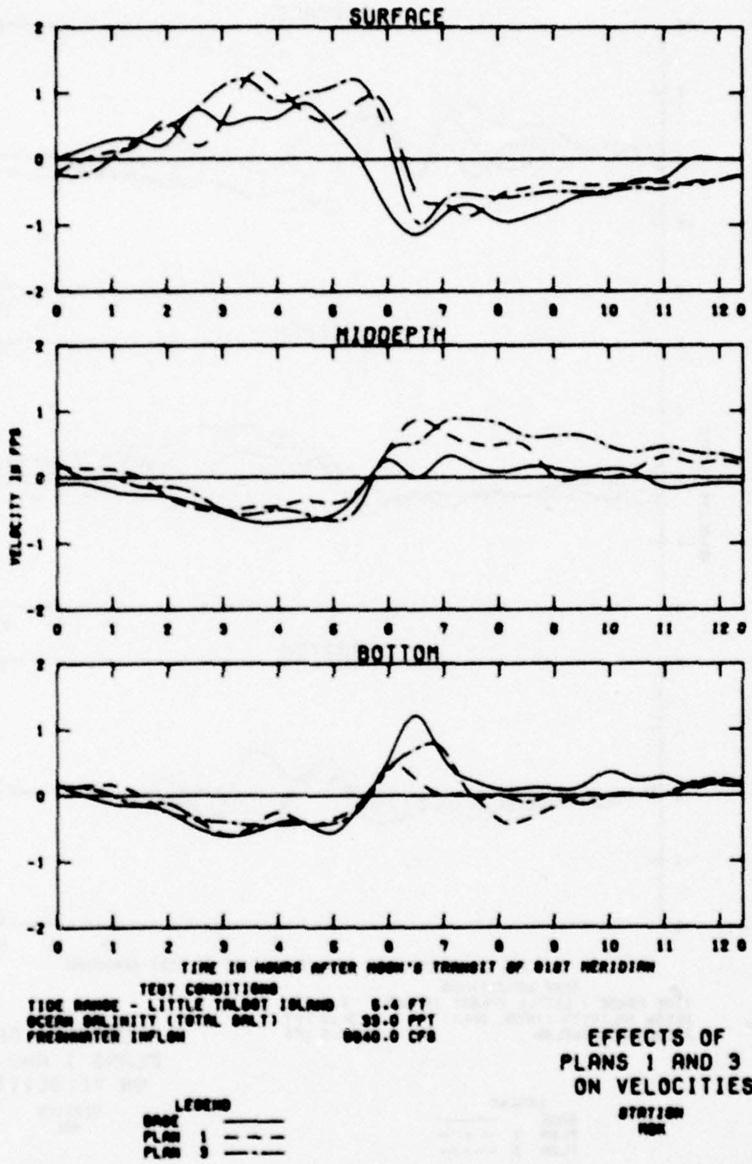
LEGEND

BASE ——
PLAN 1 – – –
PLAN 3 —·—

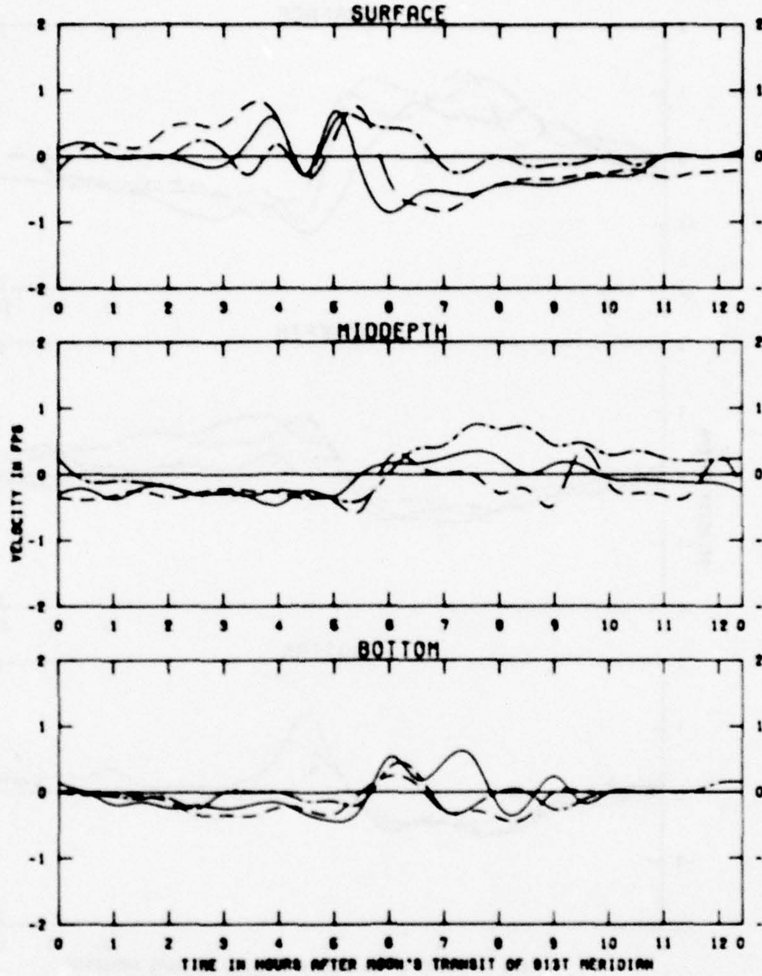
EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
MBJ

PLATE 38



EFFECTS OF PLANS 1 AND 3 ON VELOCITIES

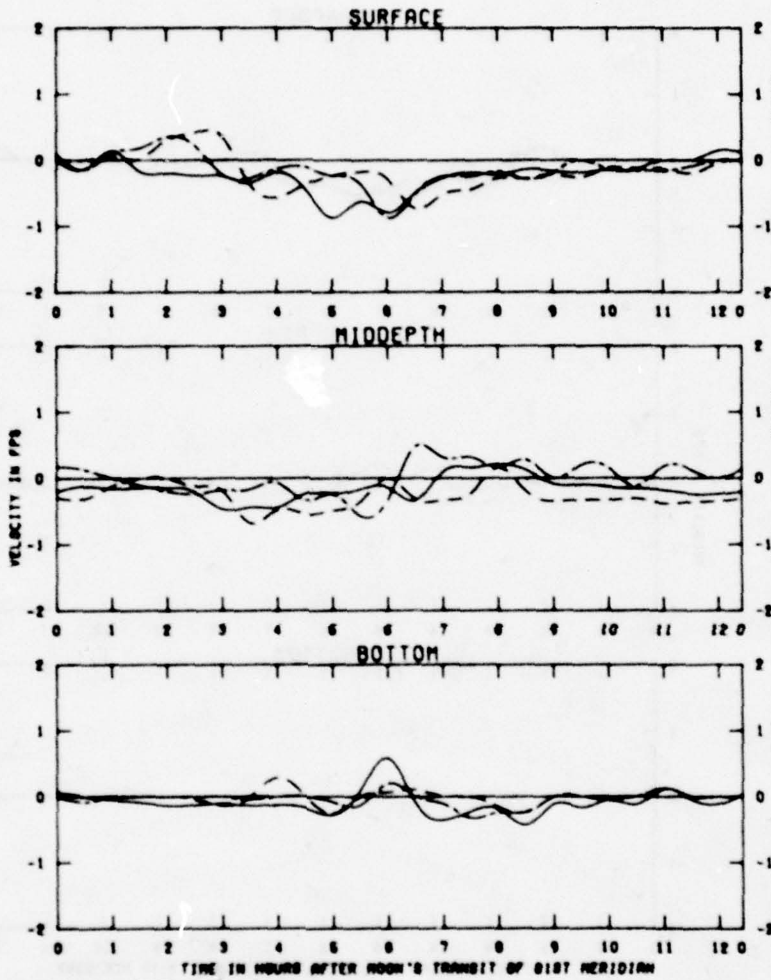


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 6.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
MBL



TEST CONDITIONS

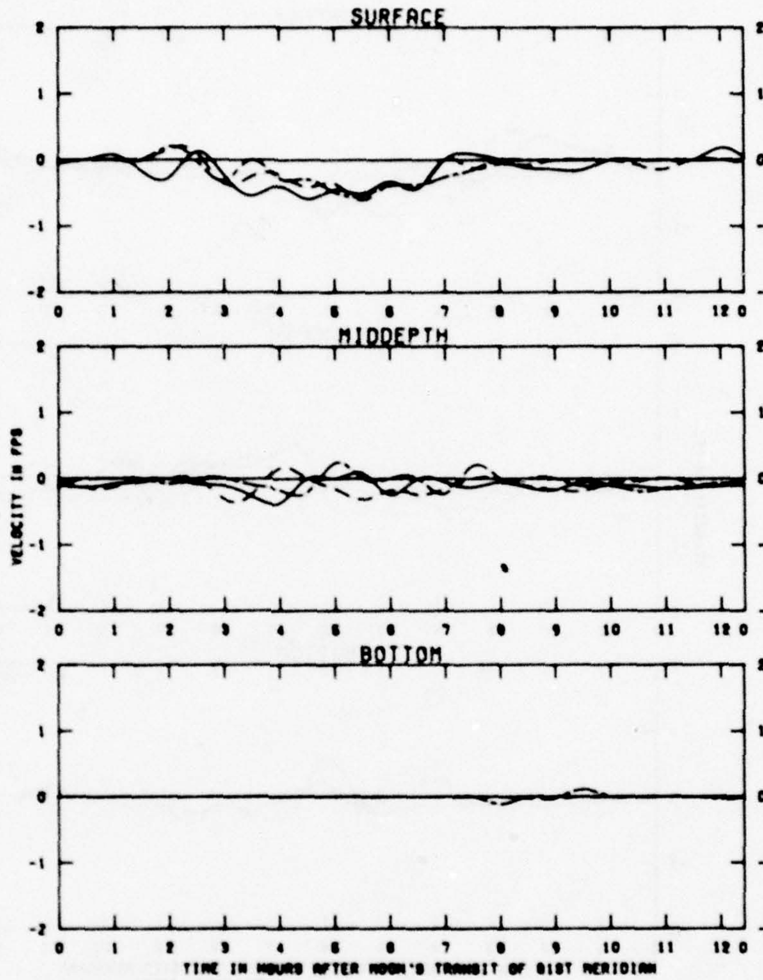
TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

LEGEND
BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
N8A

PLATE 41



TEST CONDITIONS

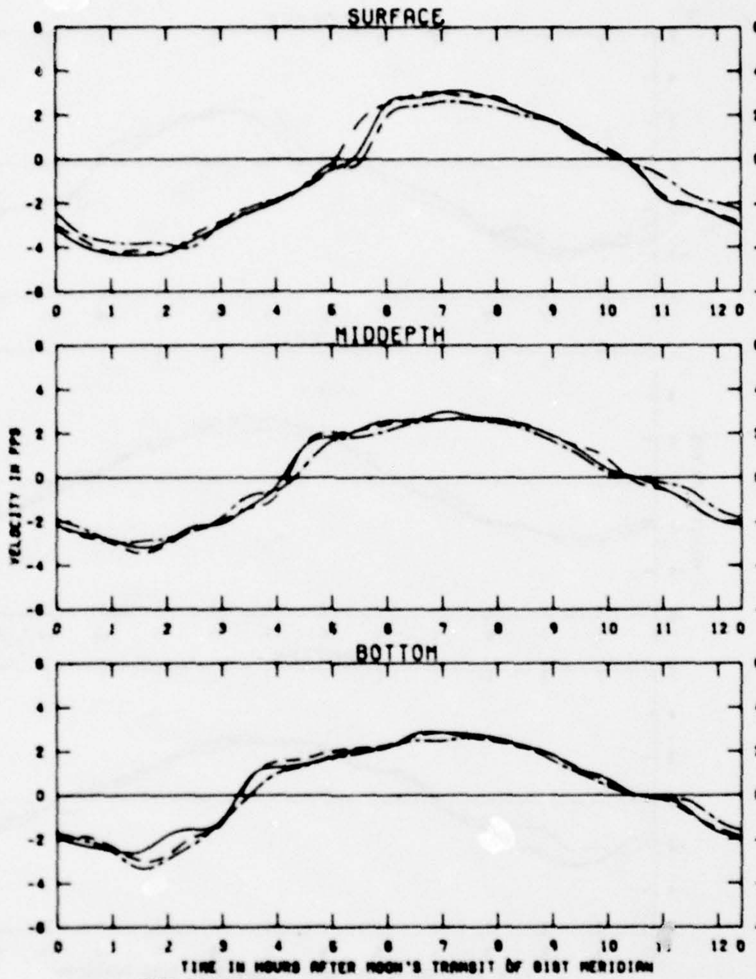
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON VELOCITIES

STATION
MBM

PLATE 42



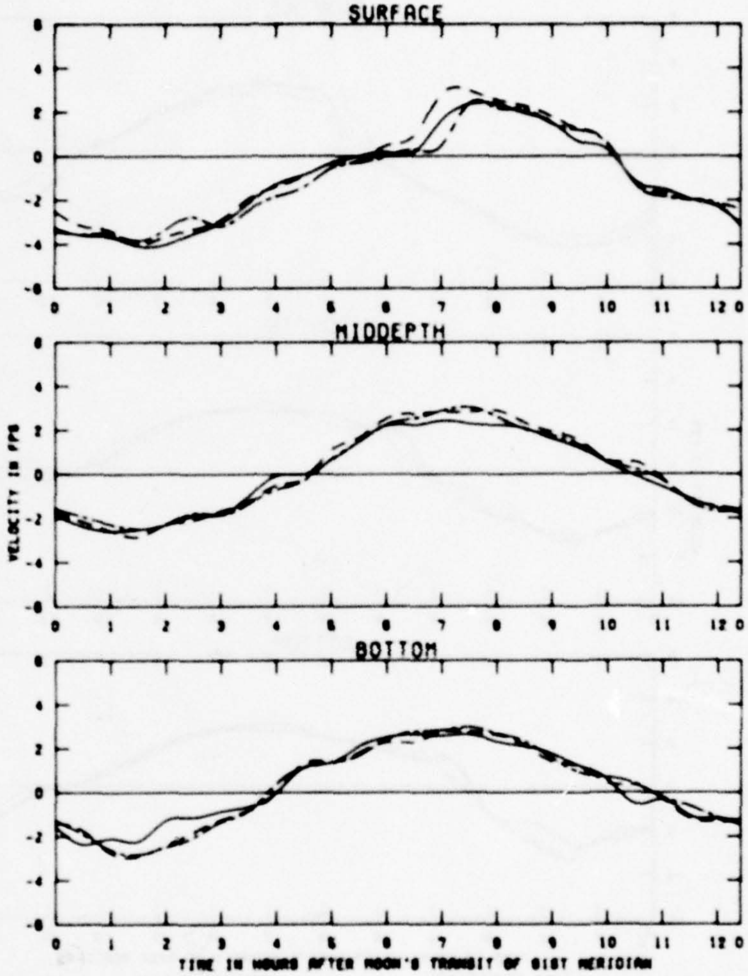
TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
YA



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

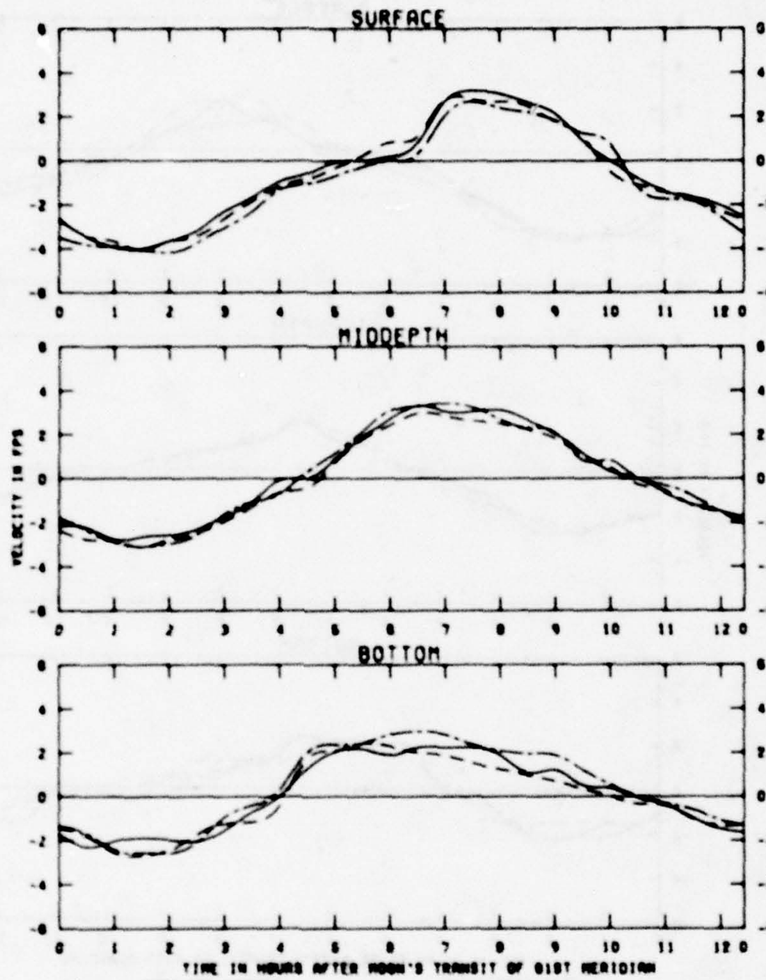
LEGEND

BASE	———
PLAN 4B	— — —
PLAN 5B	—·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
2A

PLATE 44



TEST CONDITIONS

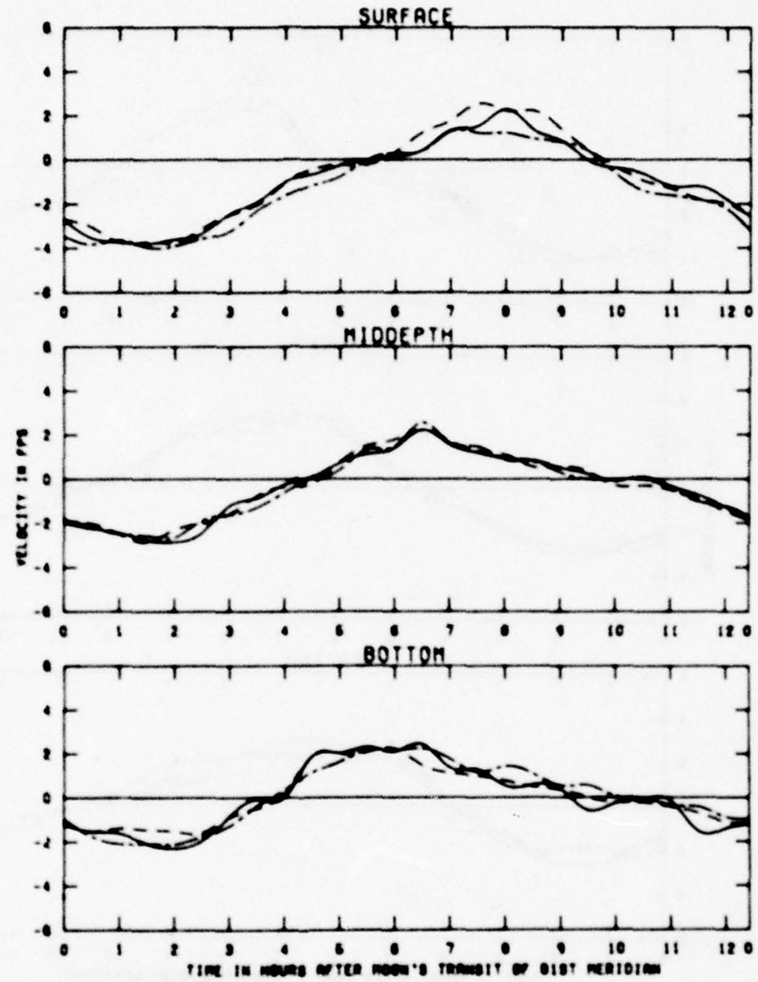
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
28



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

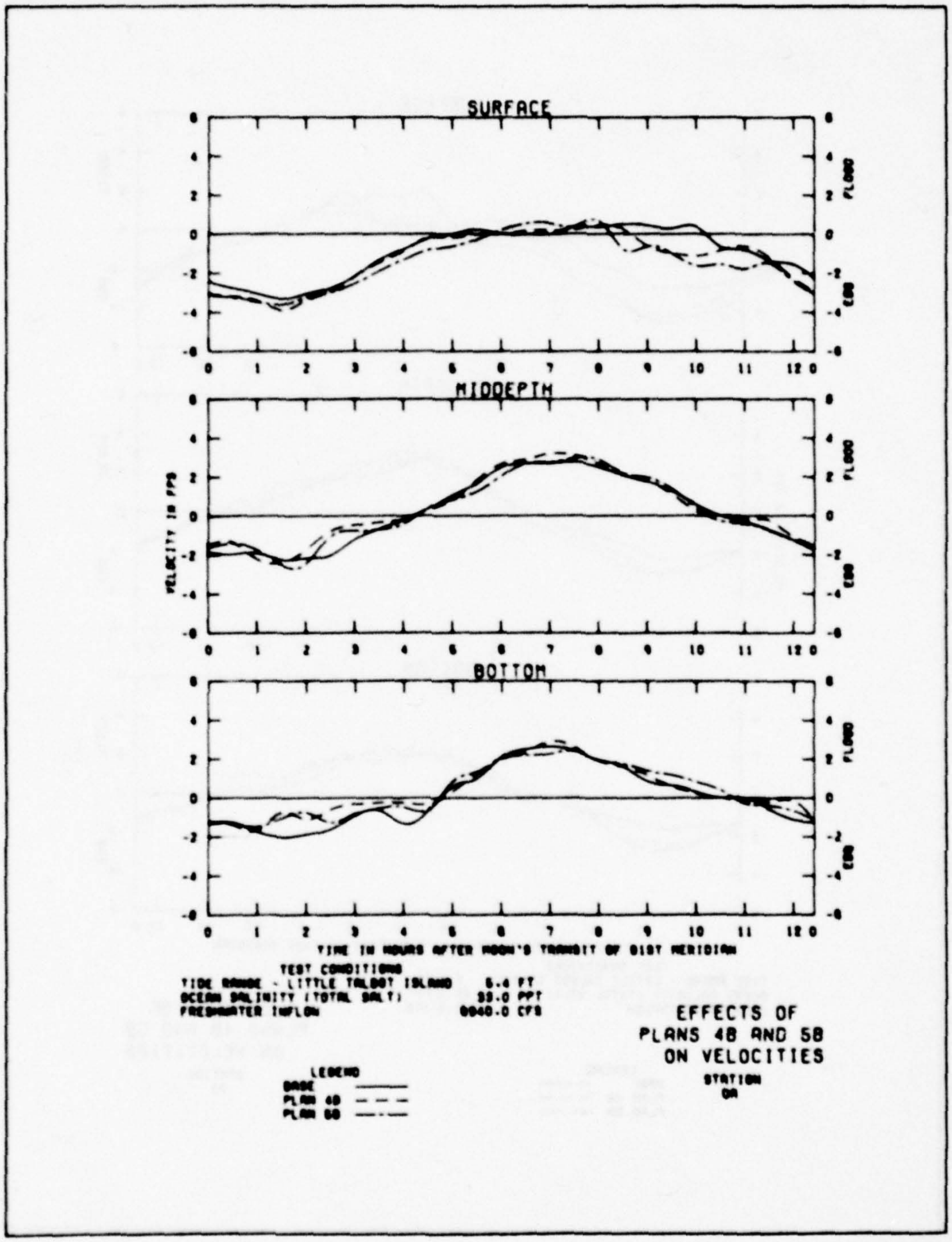
LEGEND

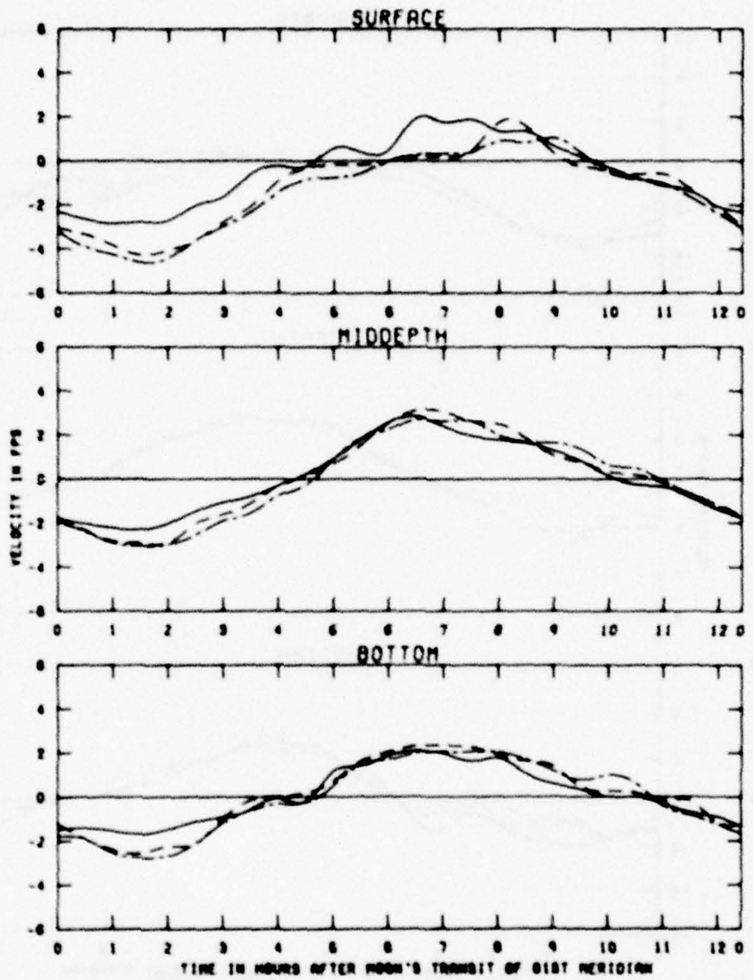
BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
2C

PLATE 46


SURFACE
MIDDEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND
OCEAN SALINITY (TOTAL SALT)
FRESHWATER INFLOW
EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES
STATION
LEGEND
BASE
PLAN 4B
PLAN 5B



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

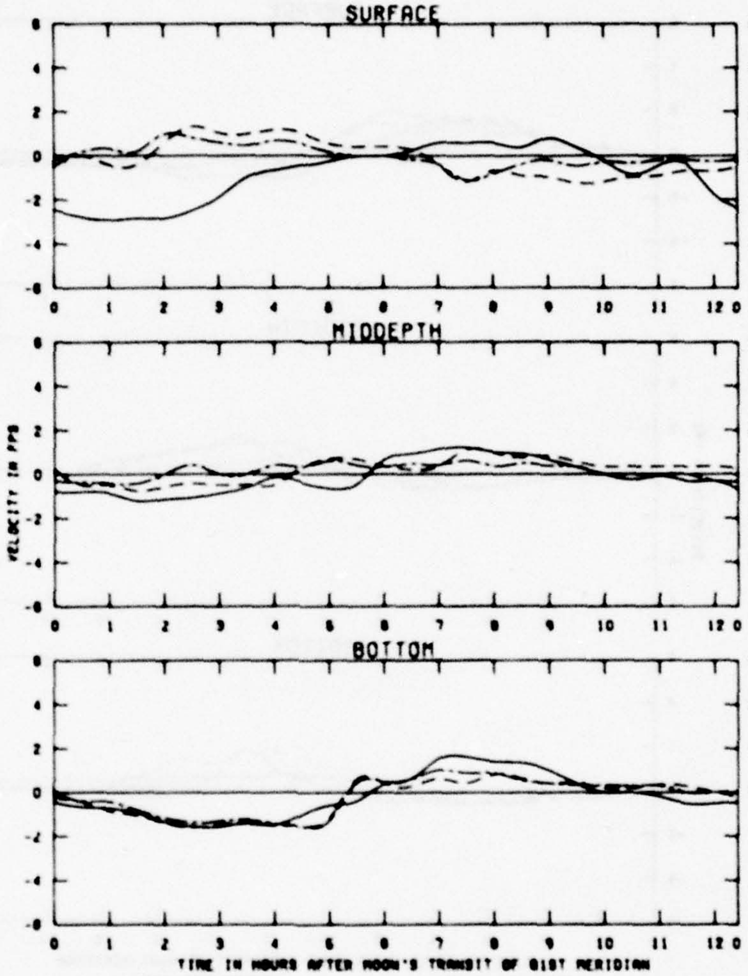
LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
00

PLATE 48



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND 6.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS

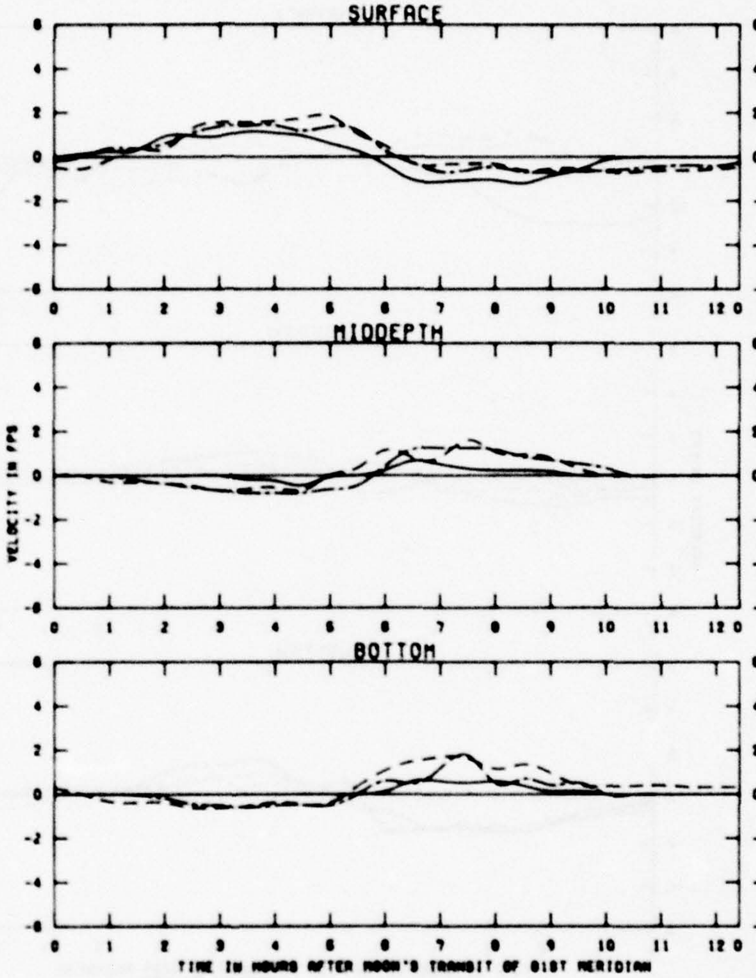
LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
OAA

PLATE 49

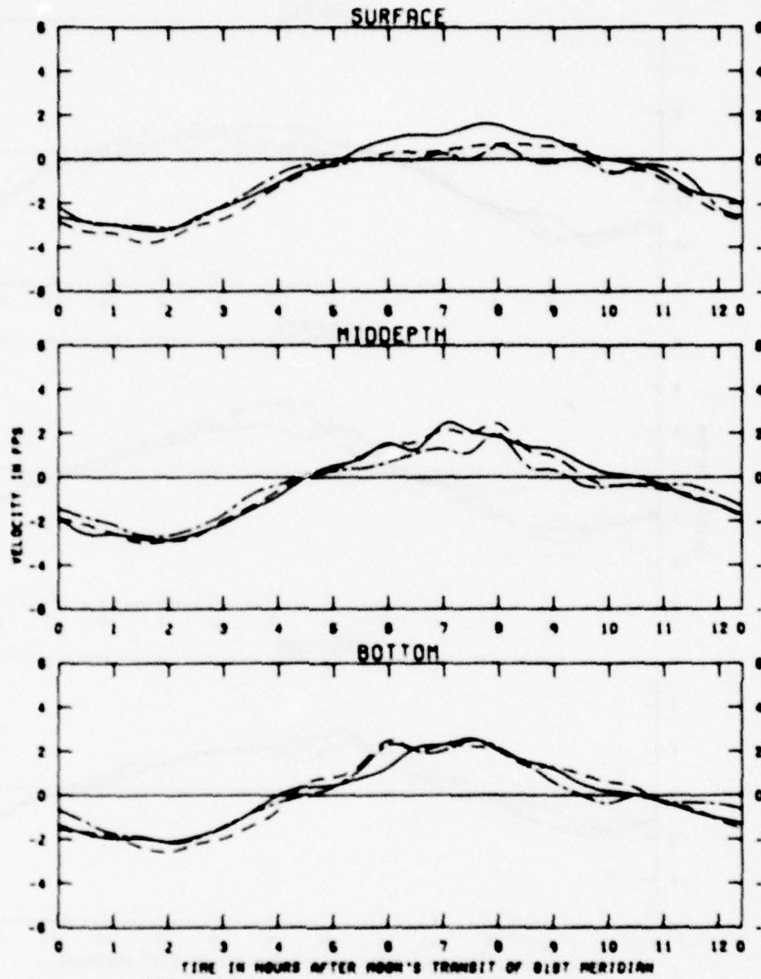


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
DBA



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

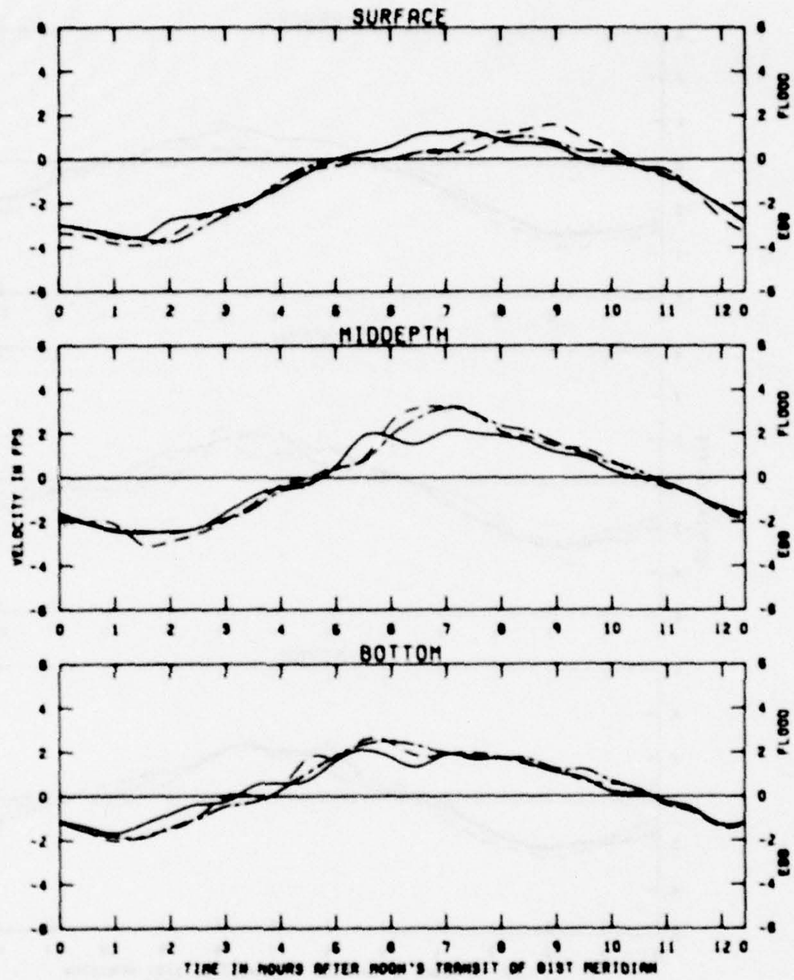
LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
008

PLATE 51



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

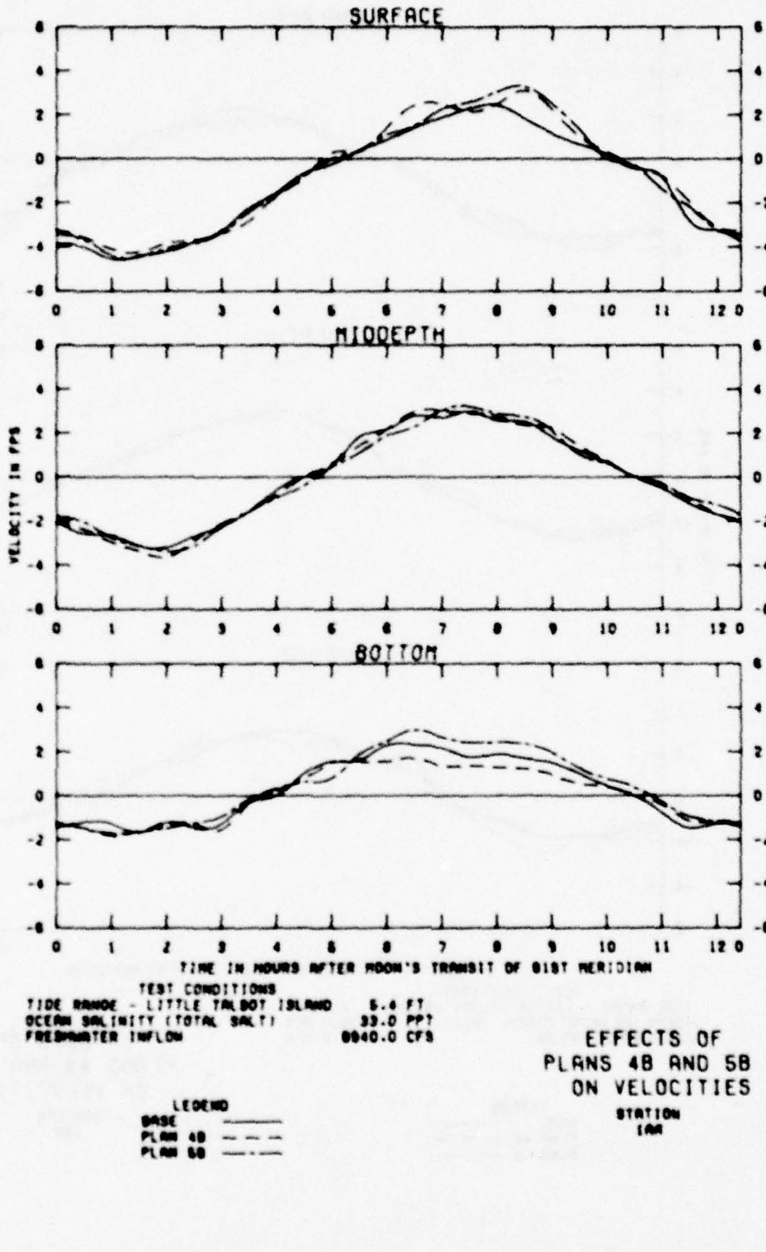
LEGEND

BASE ———
PLAN 4B – – –
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
DBC

PLATE 52

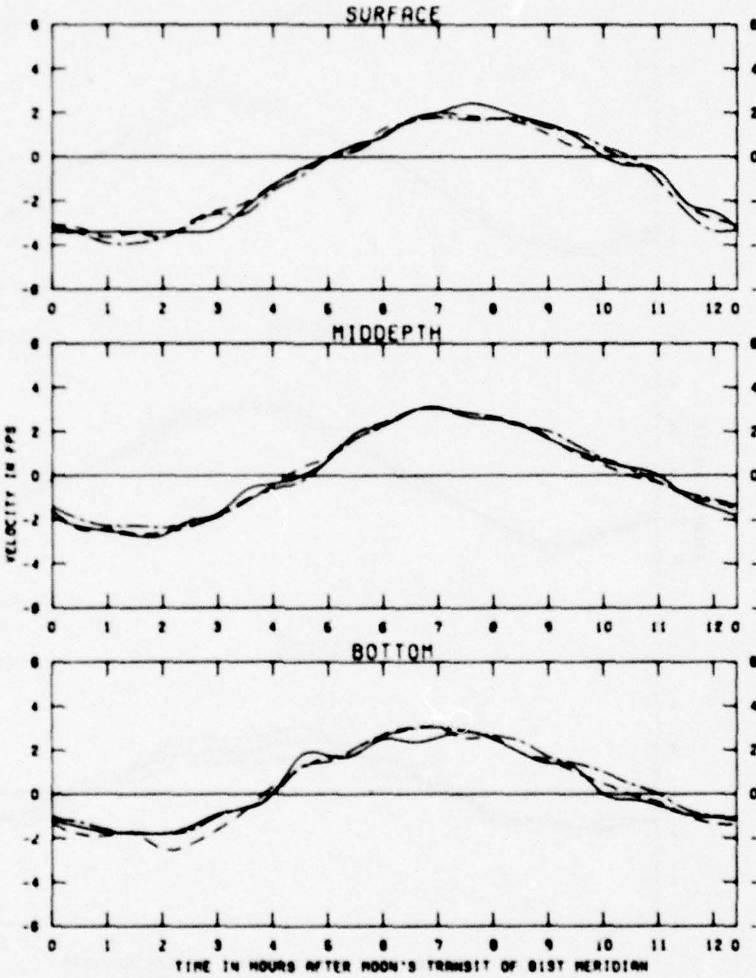


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS

LEGEND
BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
1AA



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS

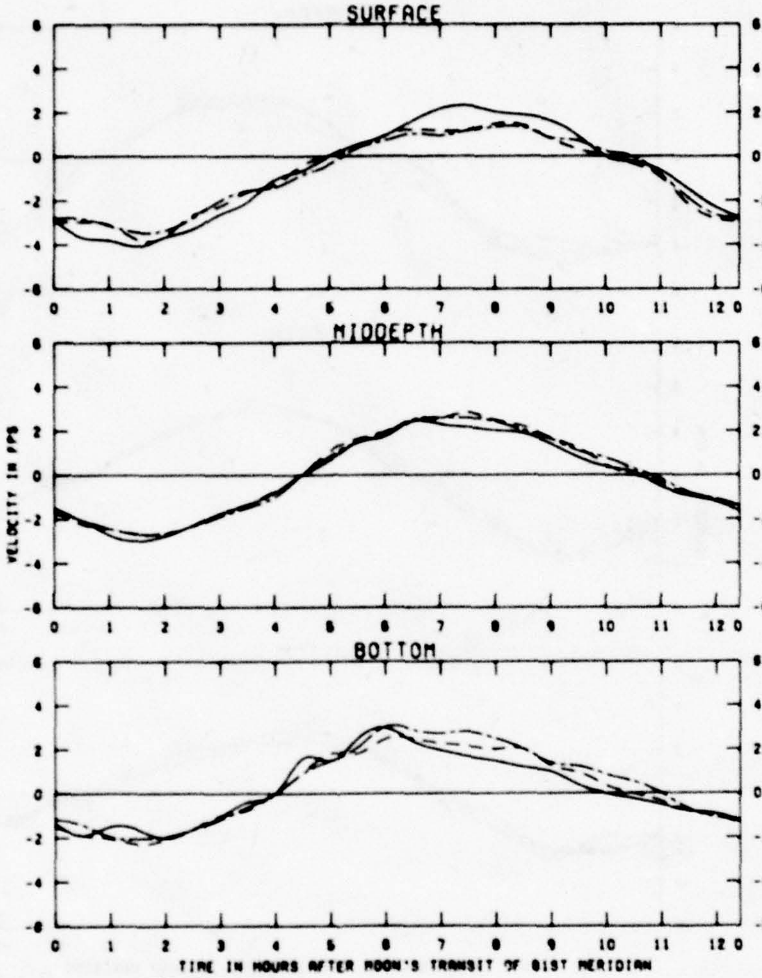
LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —-—-—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
1AB

PLATE 54



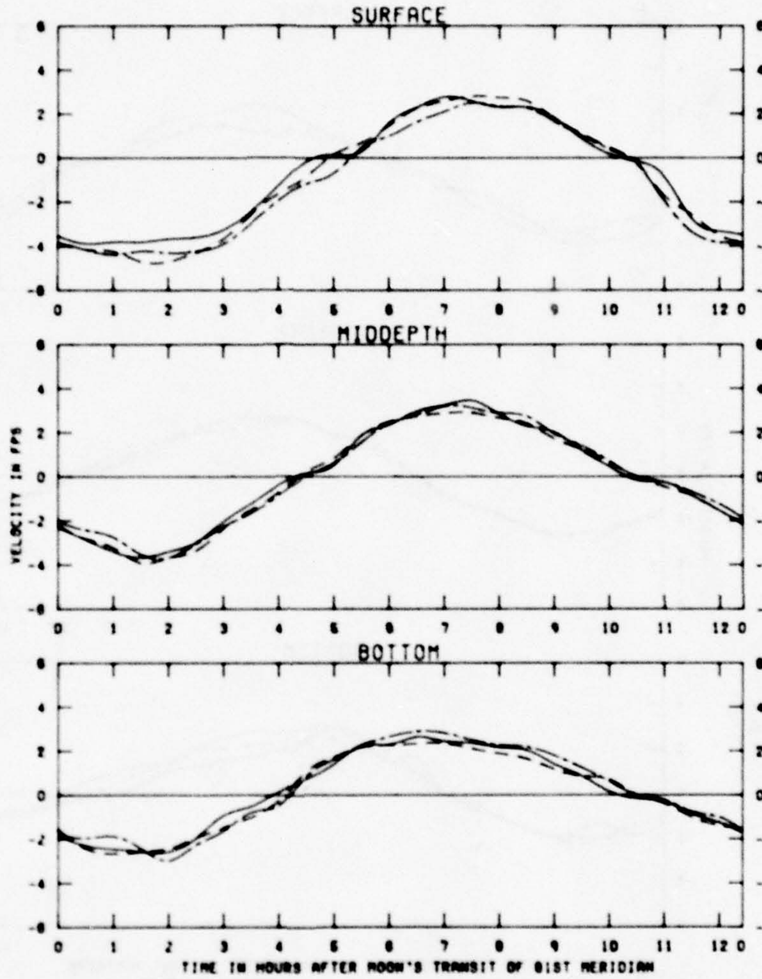
TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND
BASE
PLAN 4B
PLAN 5B

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
1AC



TEST CONDITIONS

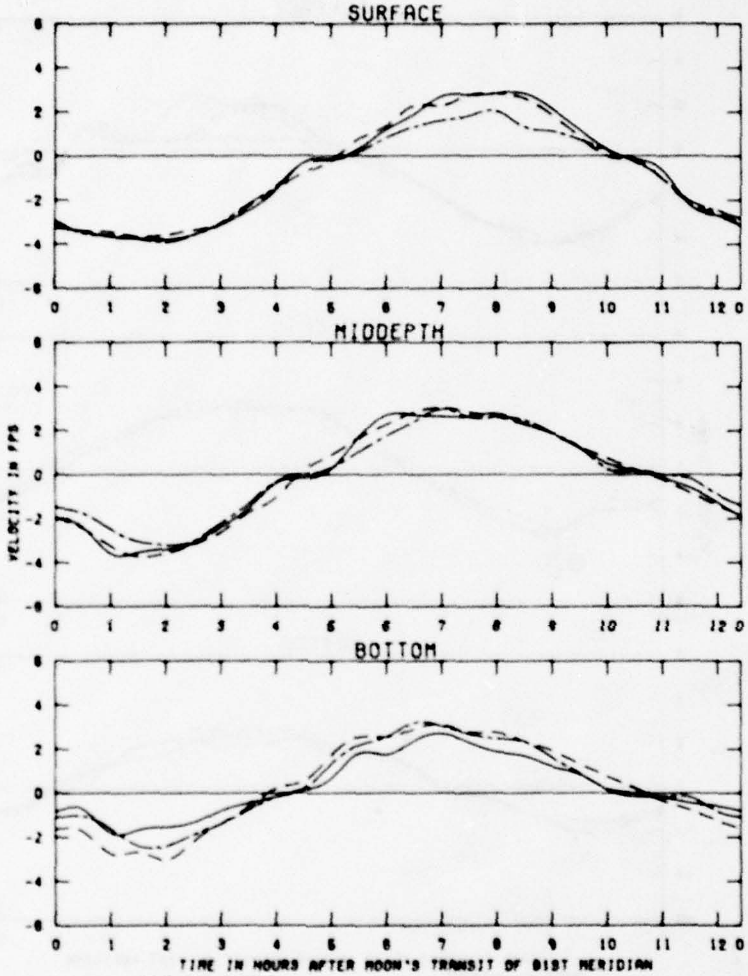
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
2AA

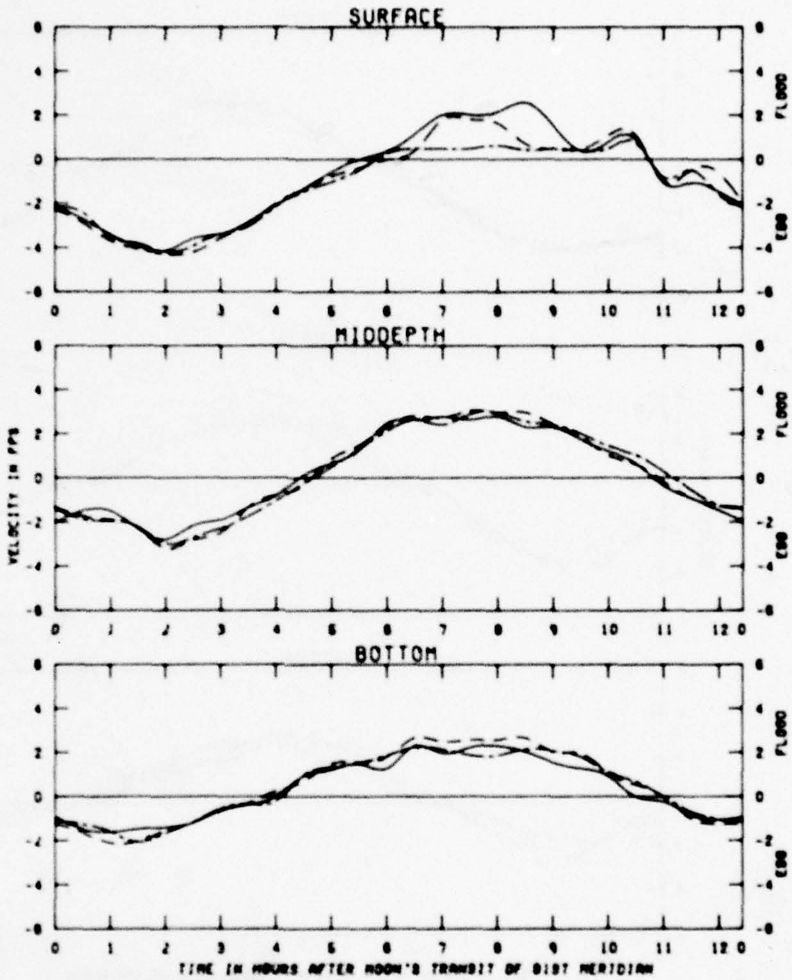


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS

LEGEND
BASE ———
PLAN 4B – – –
PLAN 5B –·–·–

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
3A



TEST CONDITIONS

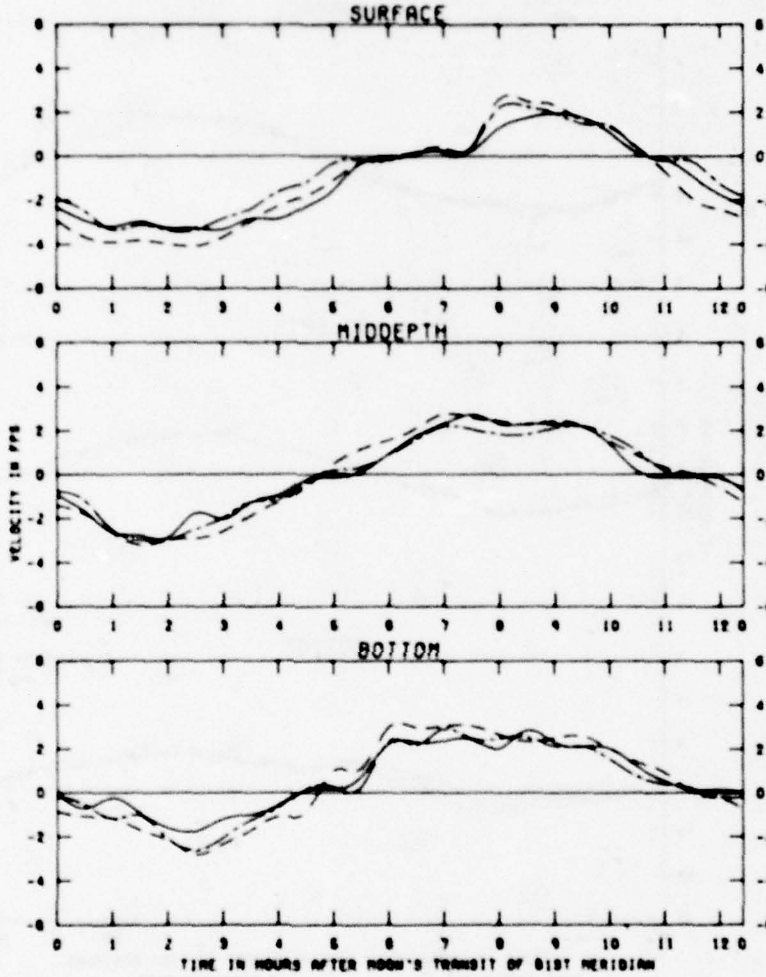
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND
BASE ———
PLAN 4B — — —
PLAN 5B —·—·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
5A

PLATE 58



TEST CONDITIONS

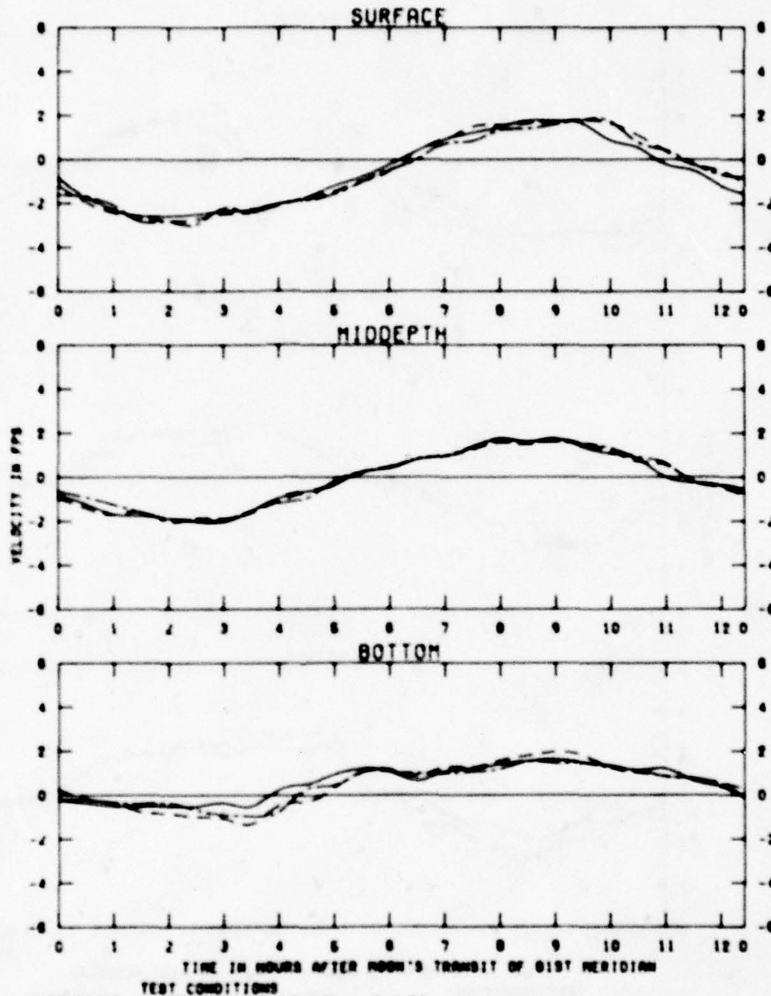
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
70



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

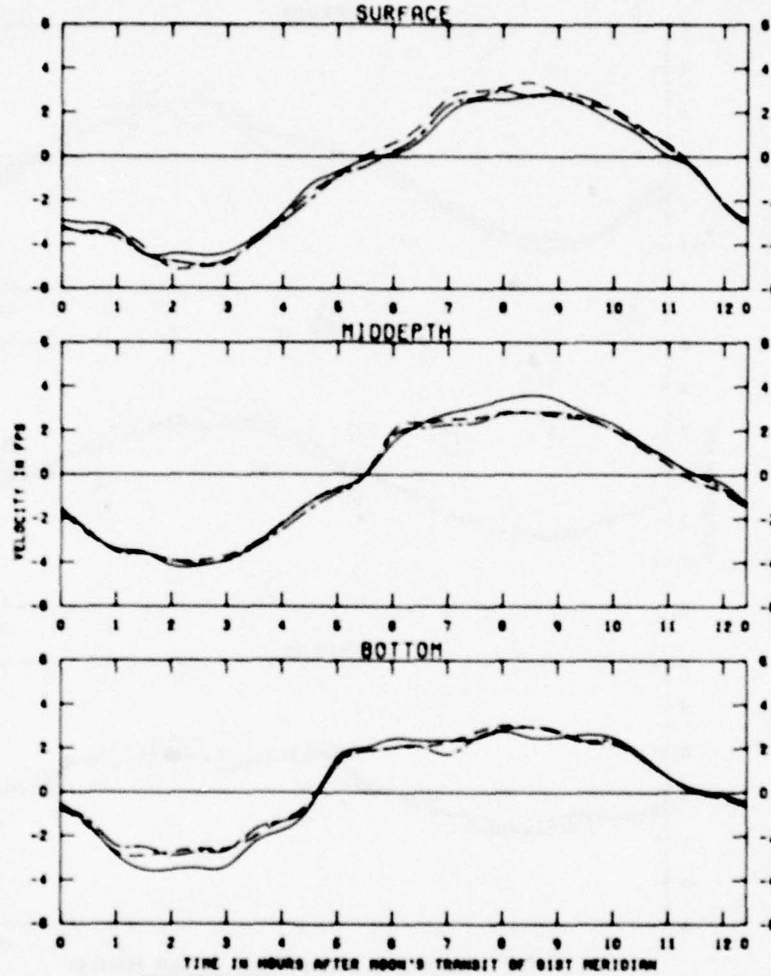
LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION

PLATE 60



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

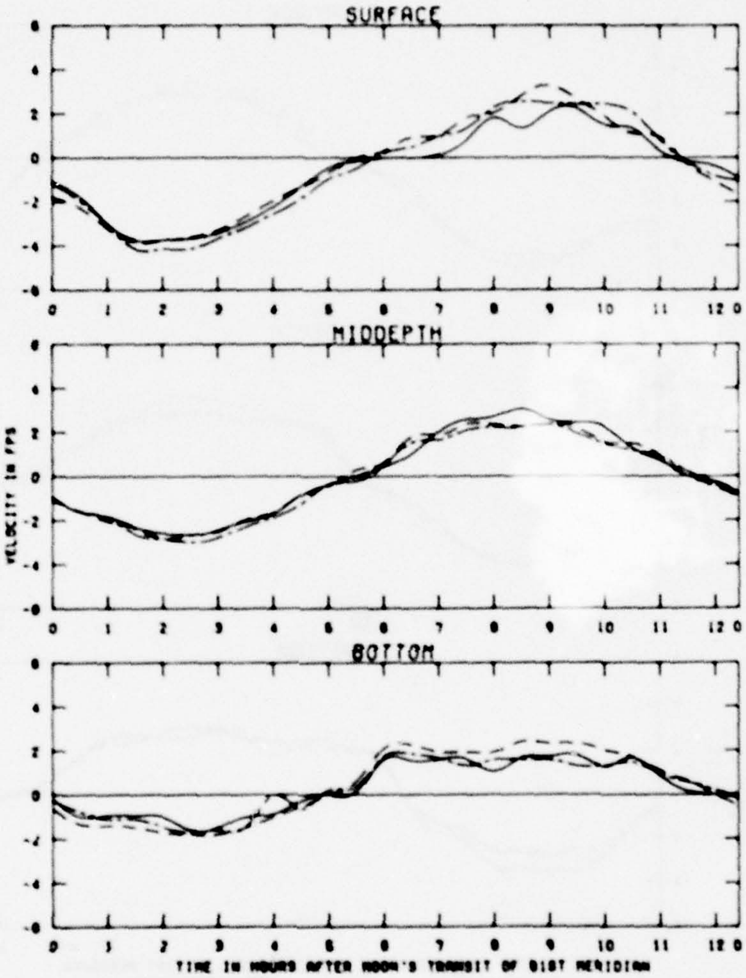
LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
90

PLATE 61



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

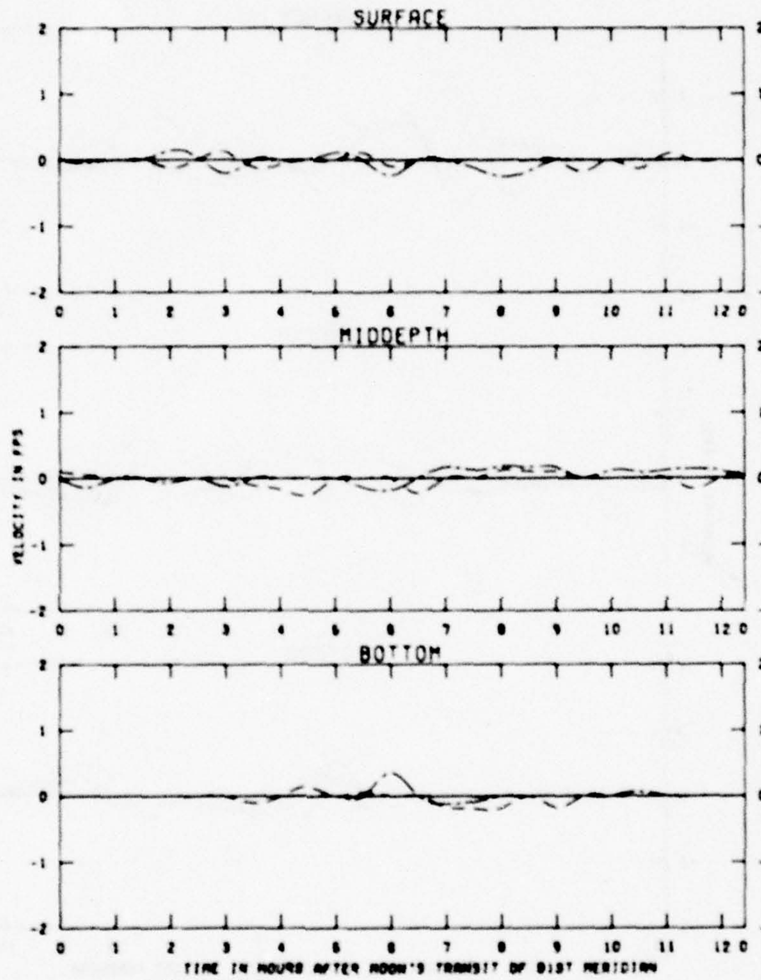
LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF PLANS 4B AND 5B ON VELOCITIES

STATION 10A

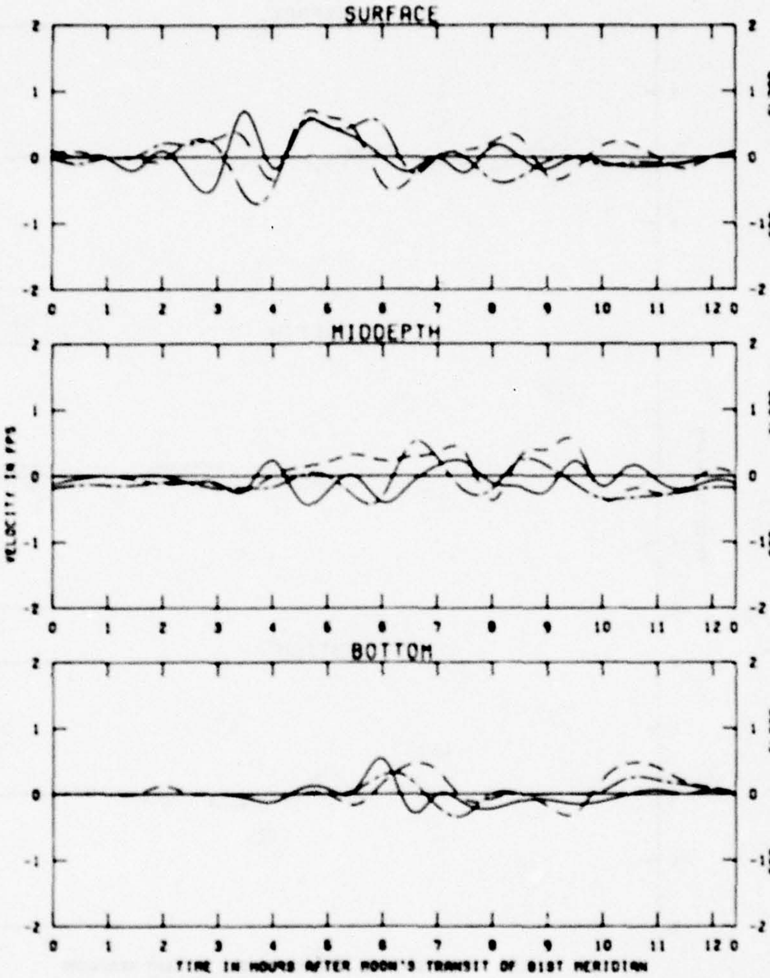
PLATE 62



TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES
STATION
NDA



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

BASE	———
PLAN 4B	— — —
PLAN 5B	—·—·—

EFFECTS OF PLANS 4B AND 5B ON VELOCITIES

STATION
M00

PLATE 64

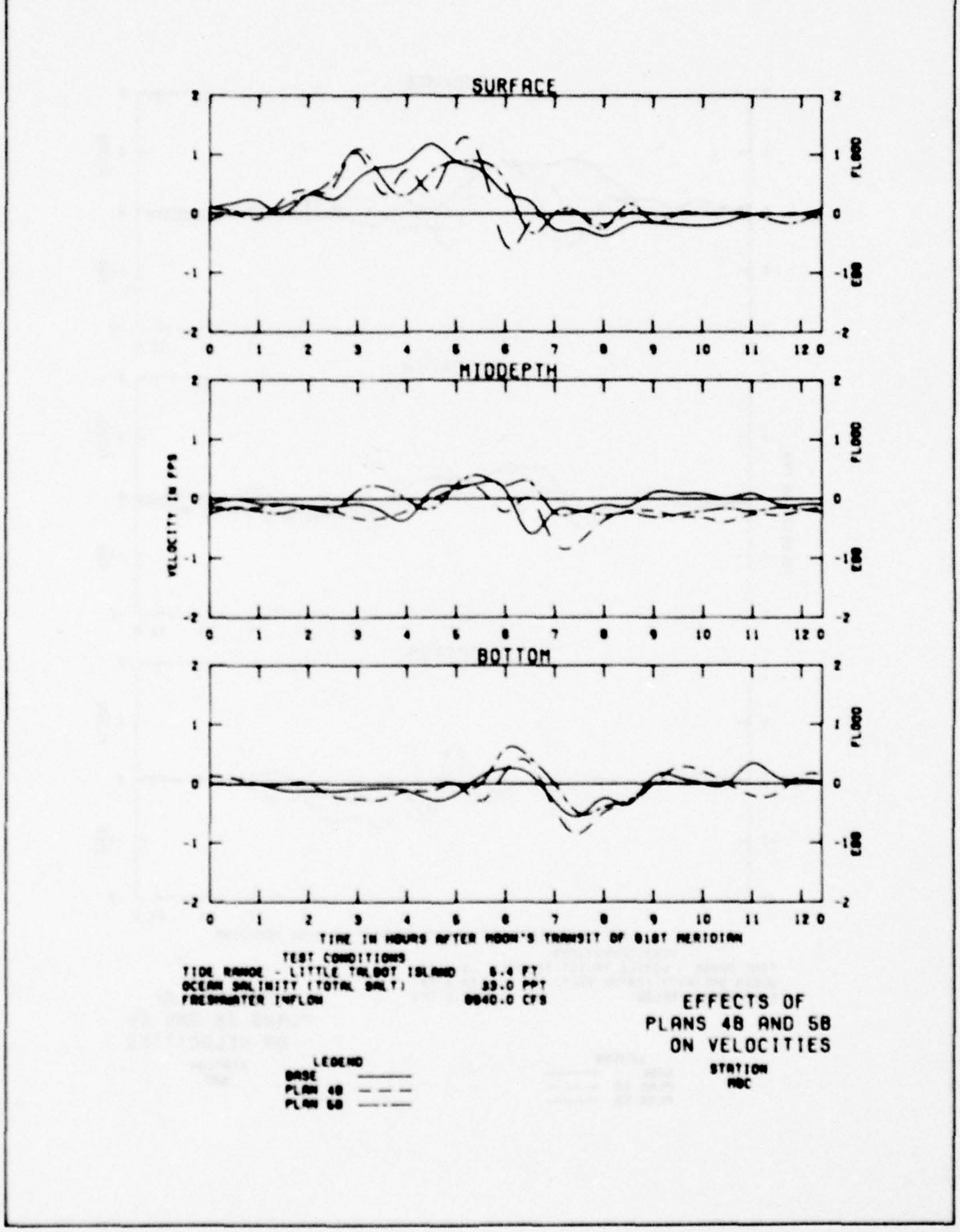
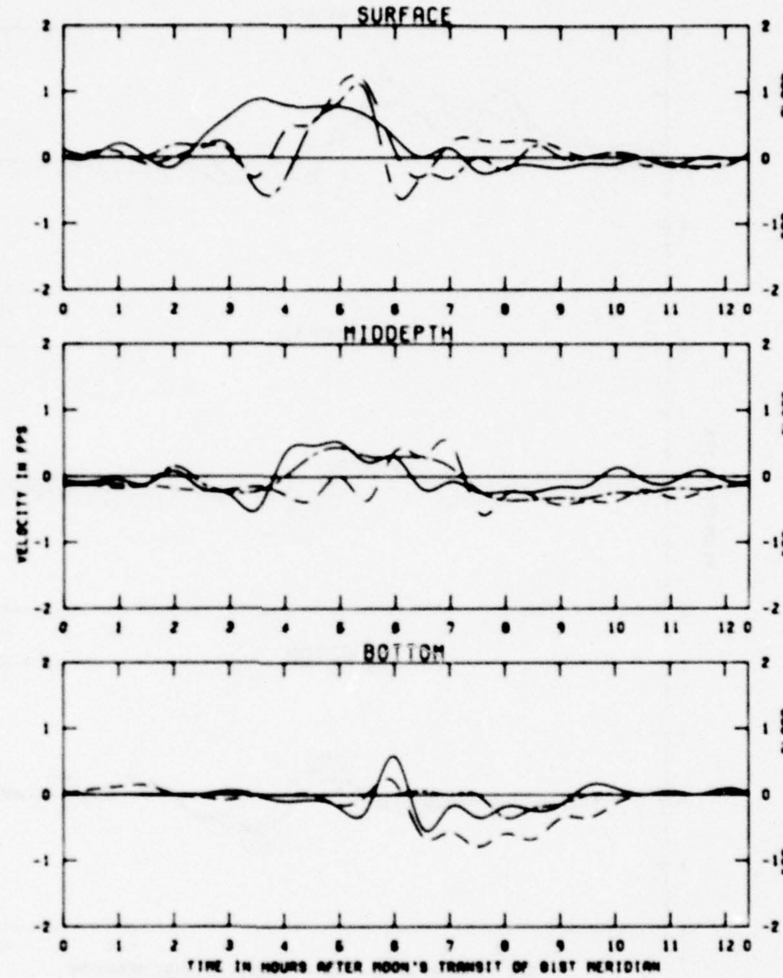

SURFACE
MIDDEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 0840.0 CFS
LEGEND
BASE
PLAN 4B
PLAN 5B
EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES
STATION
ABC

PLATE 65



TEST CONDITIONS

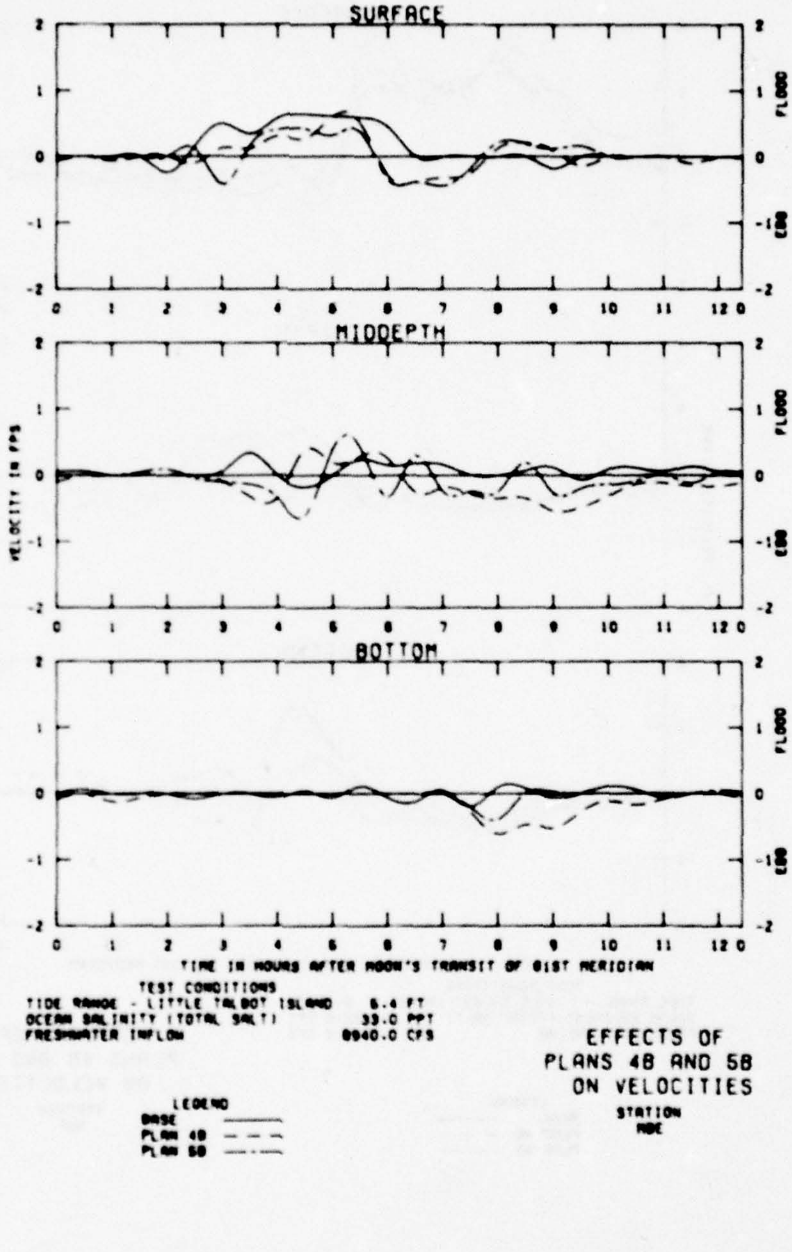
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE	———
PLAN 4B	— — —
PLAN 5B	—·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
ABD



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4	FT
OCEAN SALINITY (TOTAL SALT)	33.0	PPT
FRESHWATER INFLOW	8940.0	CFS

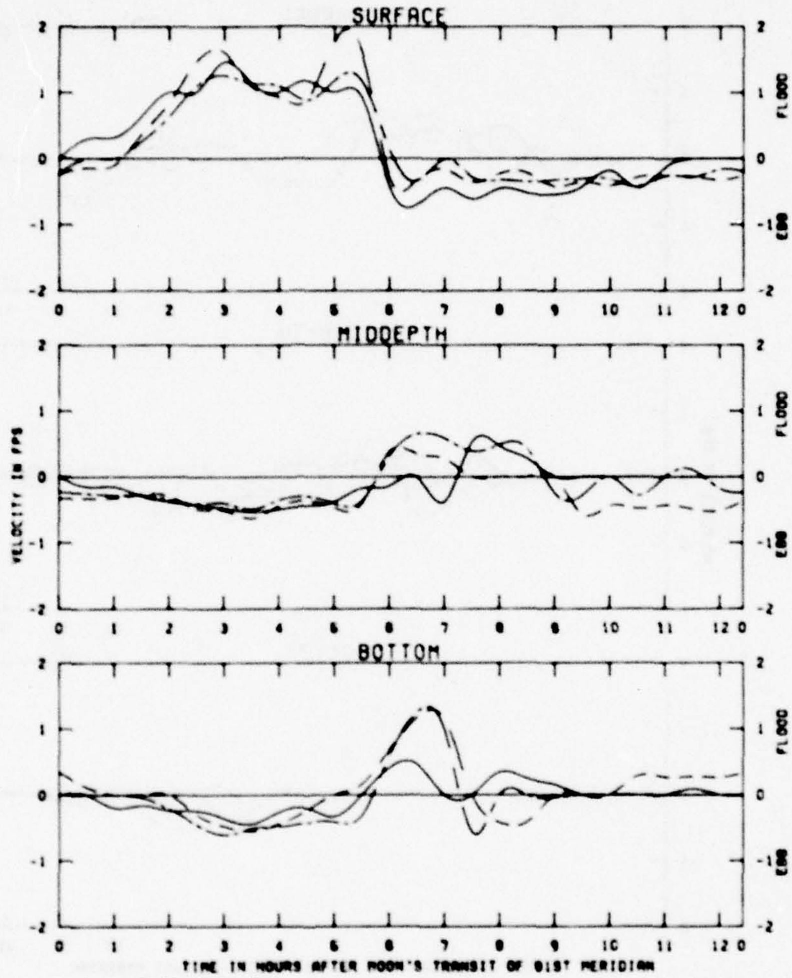
LEGEND

- BASE ————
- PLAN 4B – – –
- PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
MDE

PLATE 67



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

BASE	———
PLAN 4B	— — —
PLAN 5B	—·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
RBF

PLATE 68

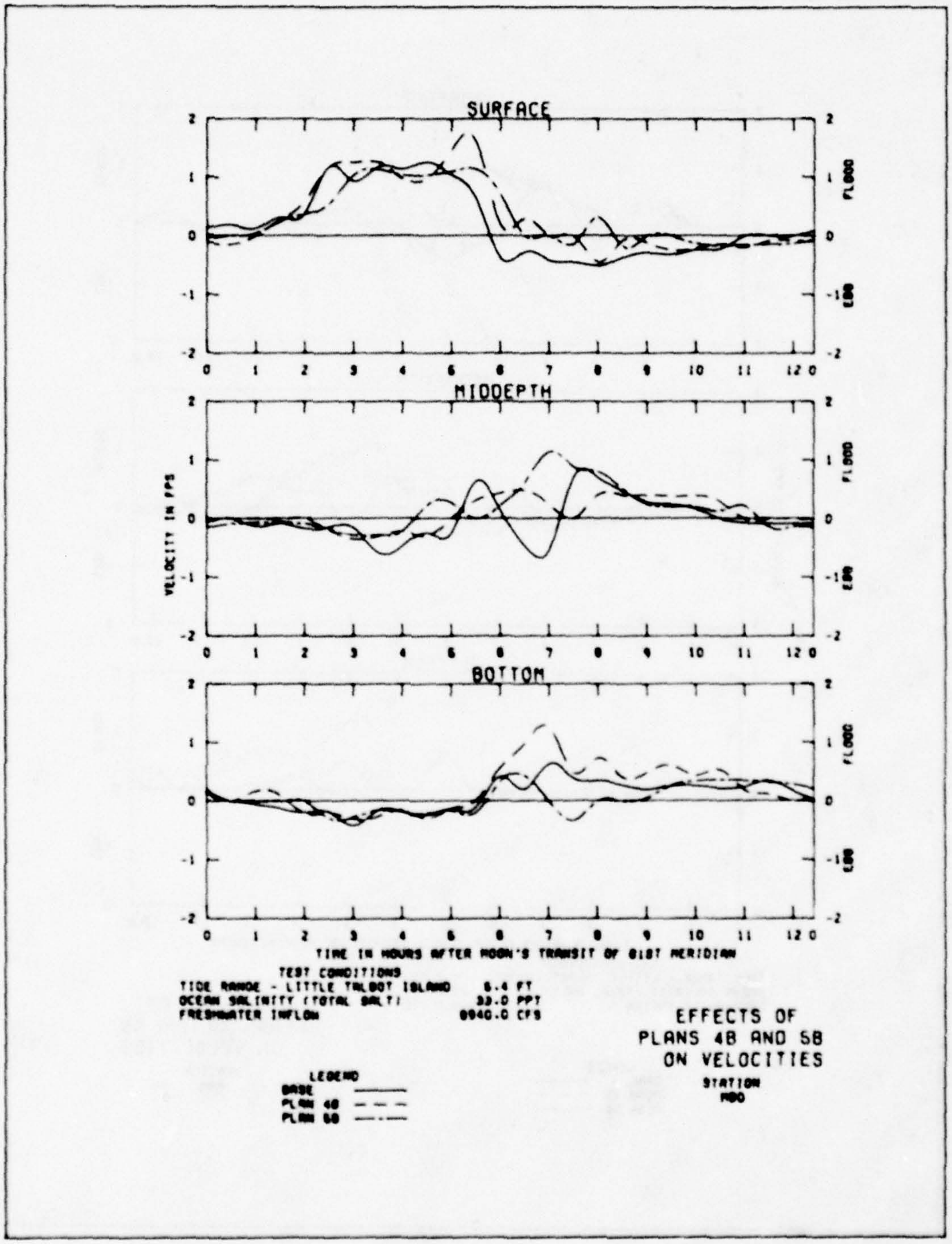
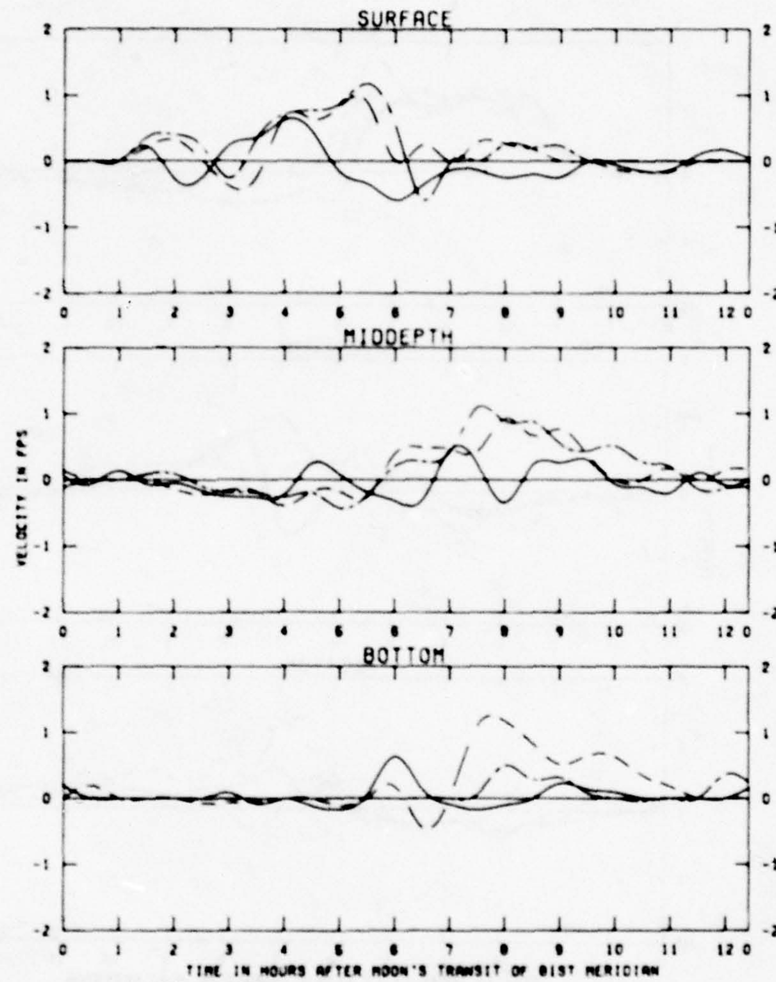

SURFACE
MIDDEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS
LEGEND
BASE
PLAN 4B
PLAN 5B
EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES
STATION
MDO

PLATE 69



TEST CONDITIONS

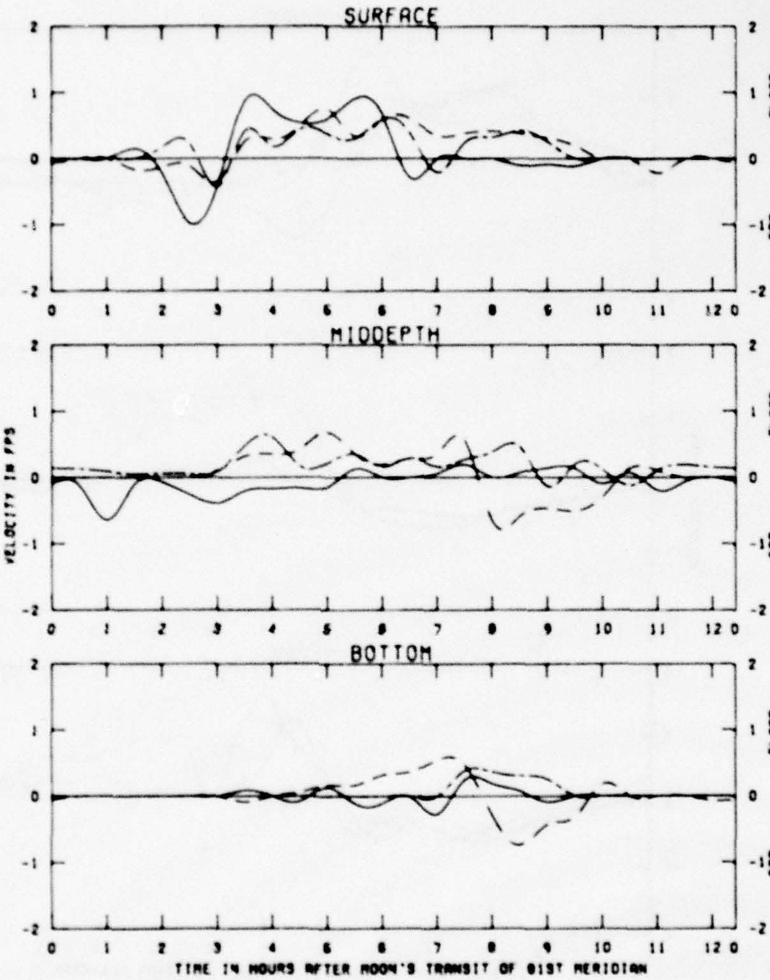
TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND
BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
MDM

PLATE 70



TEST CONDITIONS

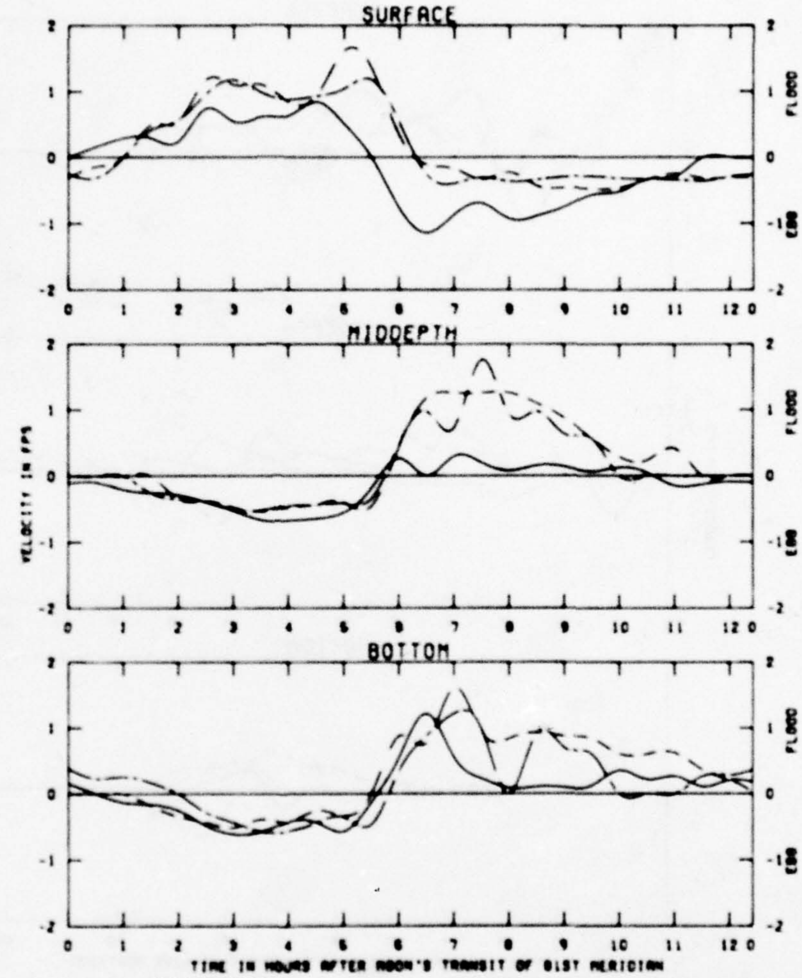
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND
BASE
PLAN 4B
PLAN 5B

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
ABJ

PLATE 71



TEST CONDITIONS

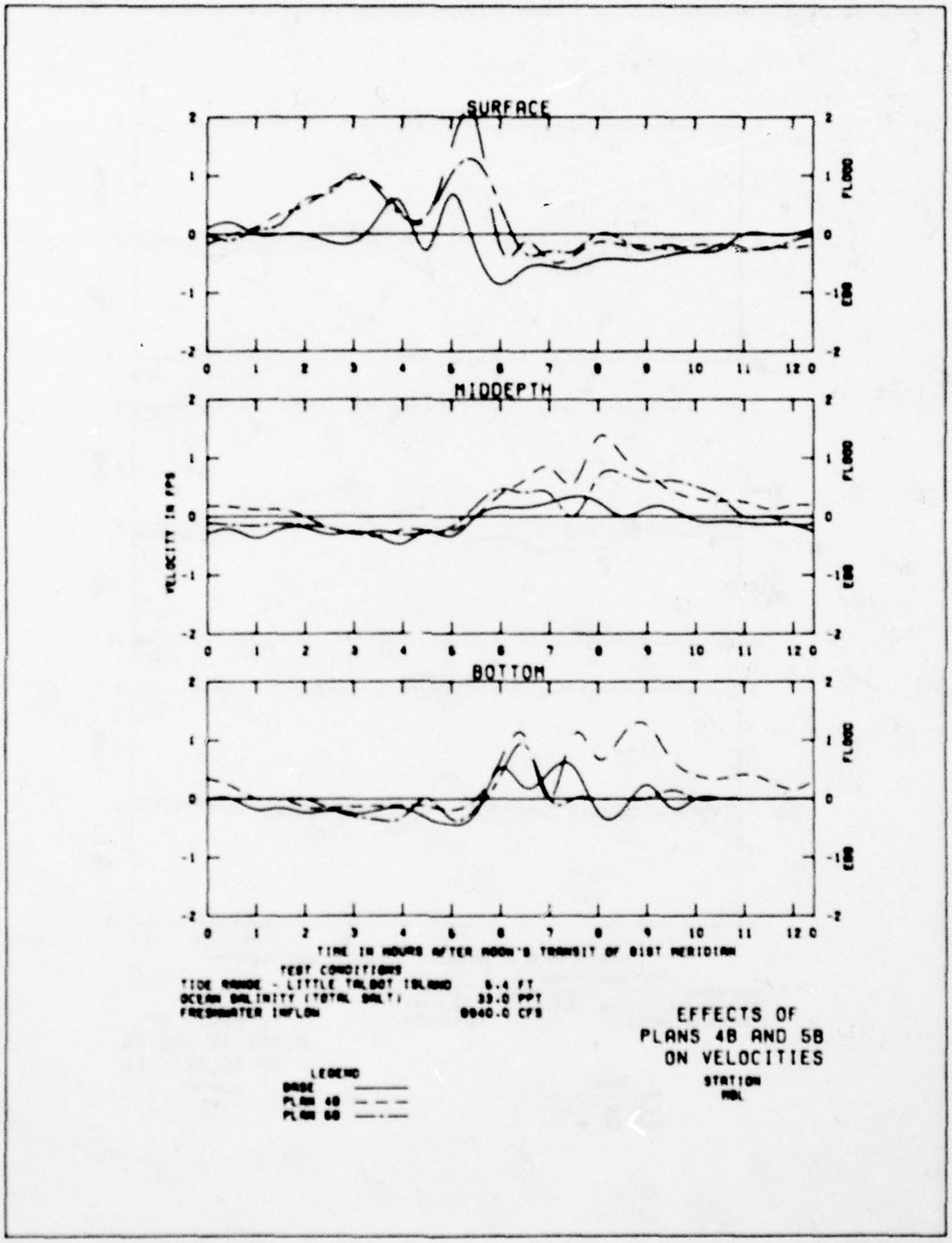
TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

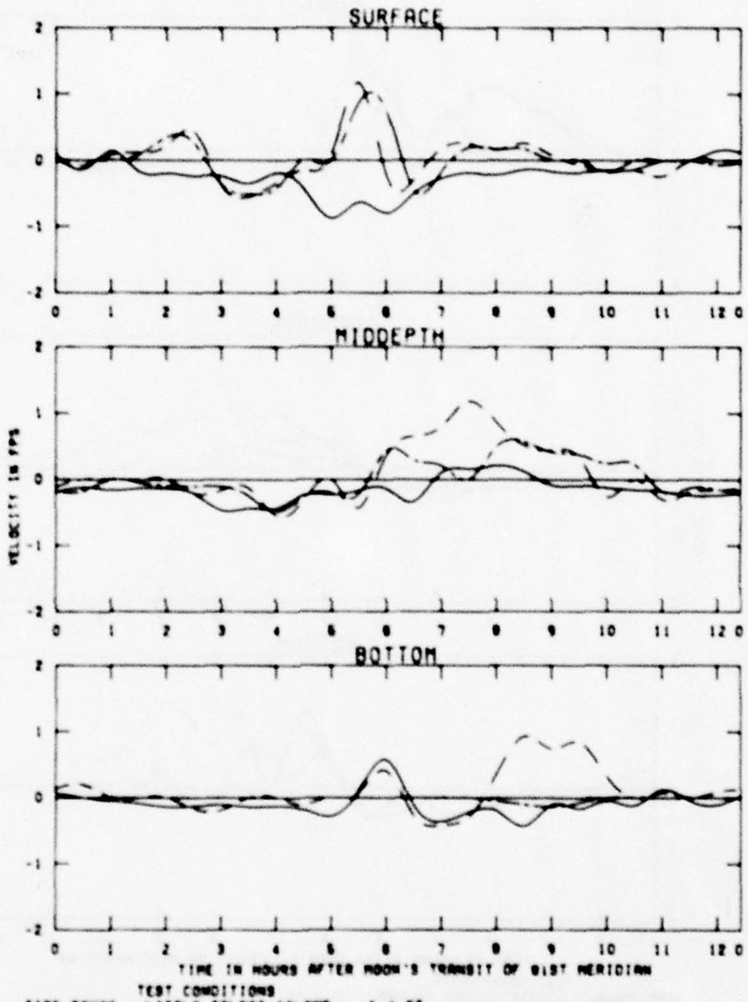
LEGEND
BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
MDK

PLATE 72


SURFACE
MIDDEPTH
BOTTOM
VELOCITY IN FPS
FLOOD
EBB
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS
LEGEND
BASE
PLAN 4B
PLAN 5B
EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES
STATION



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ————

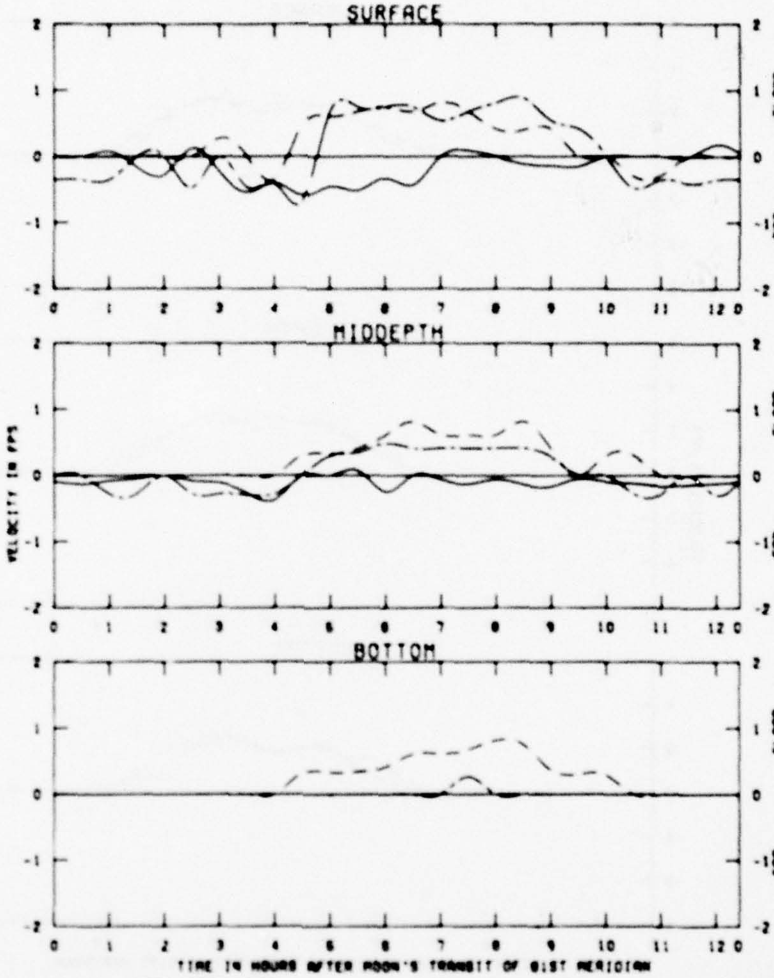
PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

STATION
MDA

PLATE 74



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

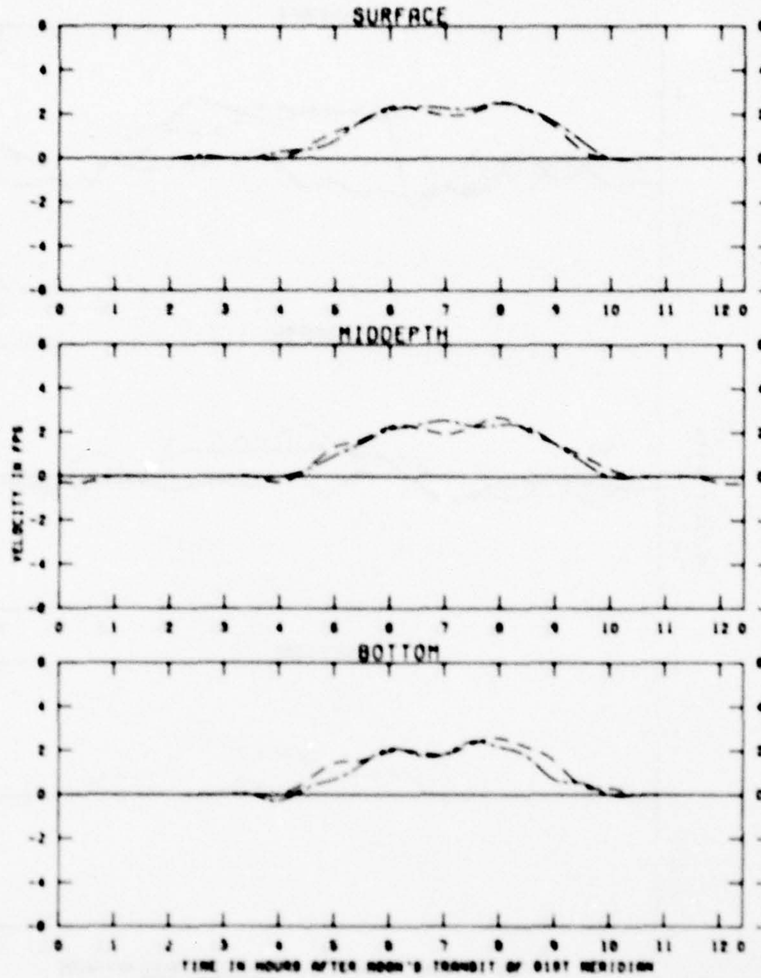
BASE ———

PLAN 4B — — —

PLAN 5B —·—·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES

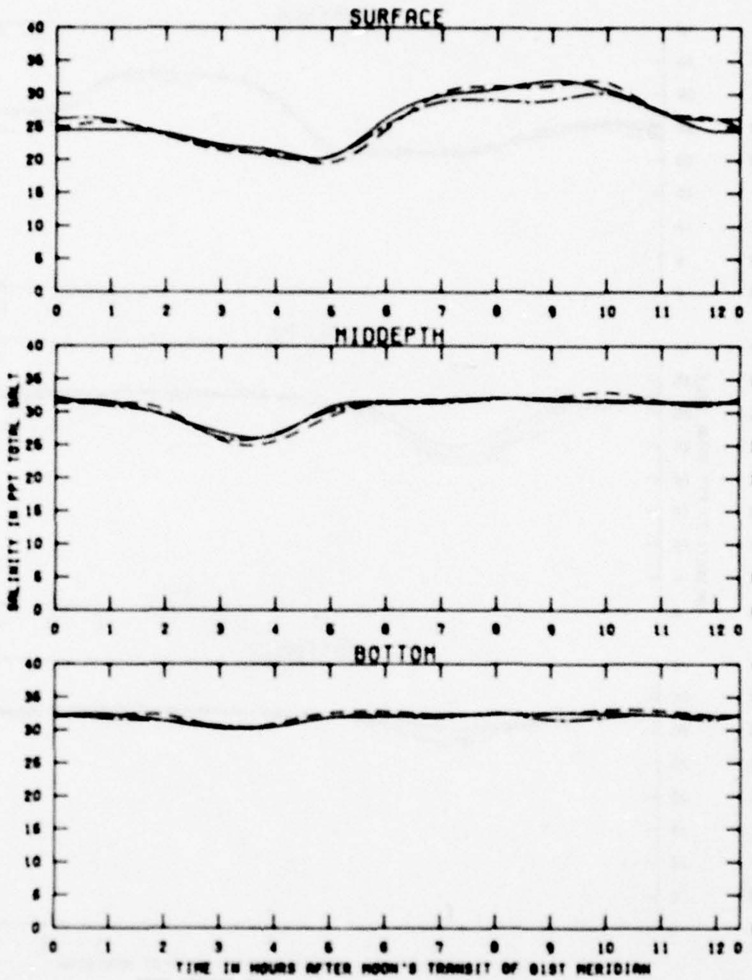
STATION



TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 0040.0 CFS

LEGEND
PLAN 4B — — —
PLAN 5B —·—·—

EFFECTS OF
PLANS 4B AND 5B
ON VELOCITIES
STATION



TEST CONDITIONS

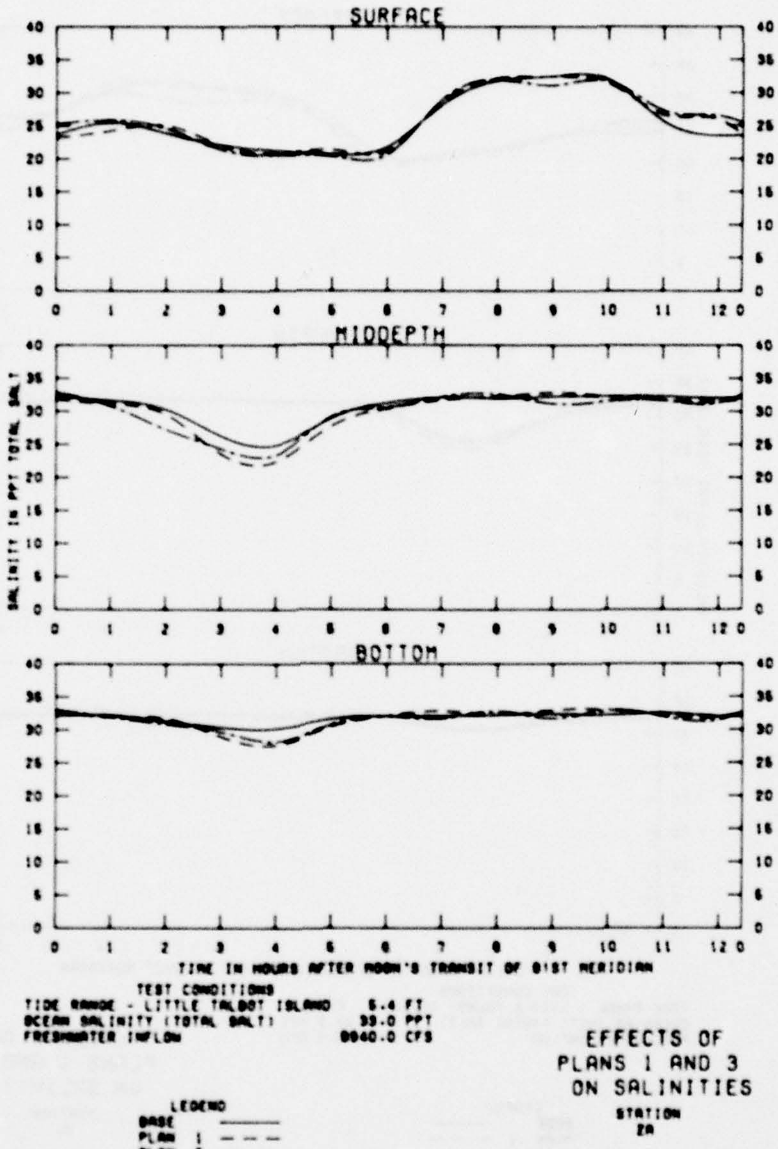
TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—·—

EFFECTS OF PLANS 1 AND 3 ON SALINITIES

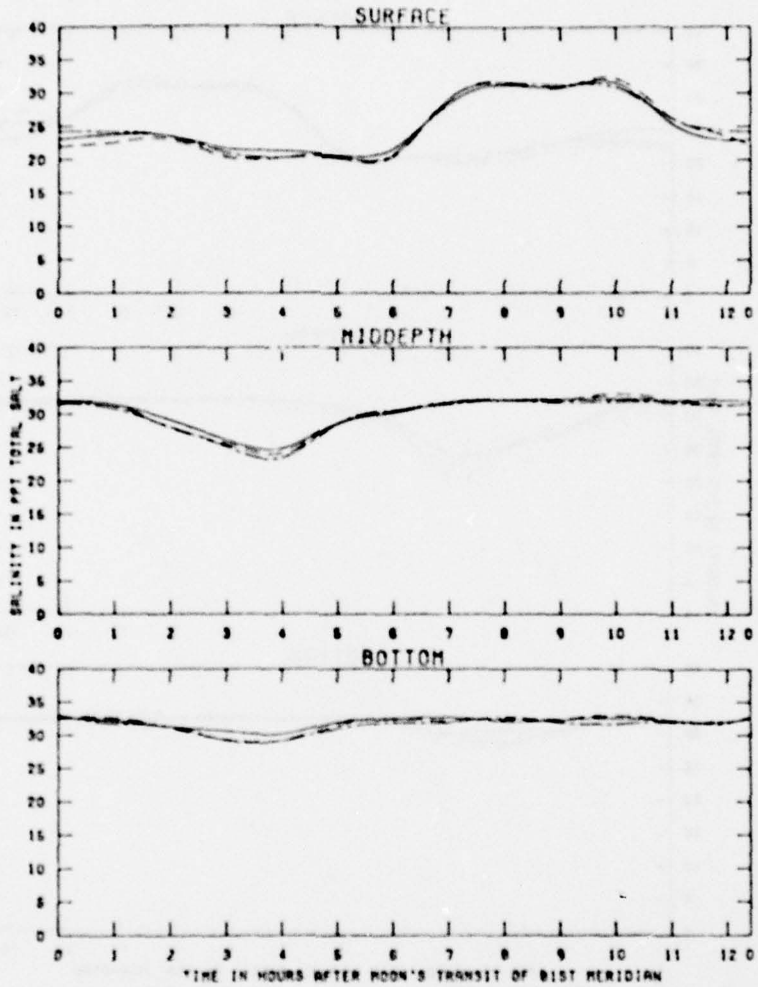
STATION YA



EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
2A

PLATE 78



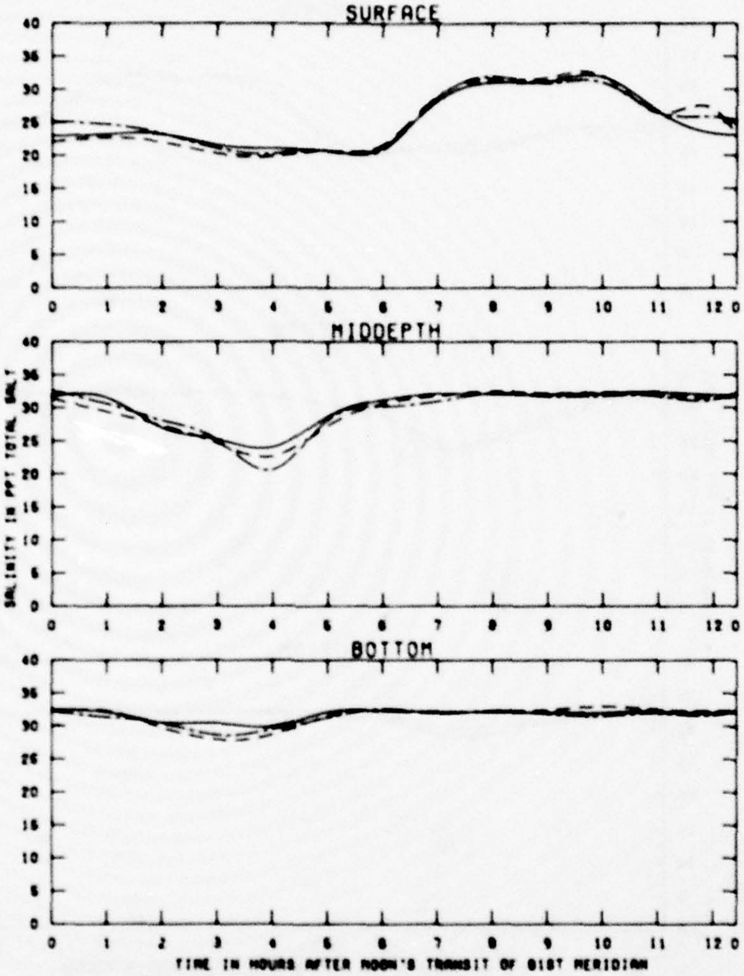
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 6.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND
BASE ———
PLAN 1 — — —
PLAN 3 —·—·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
78

PLATE 79



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

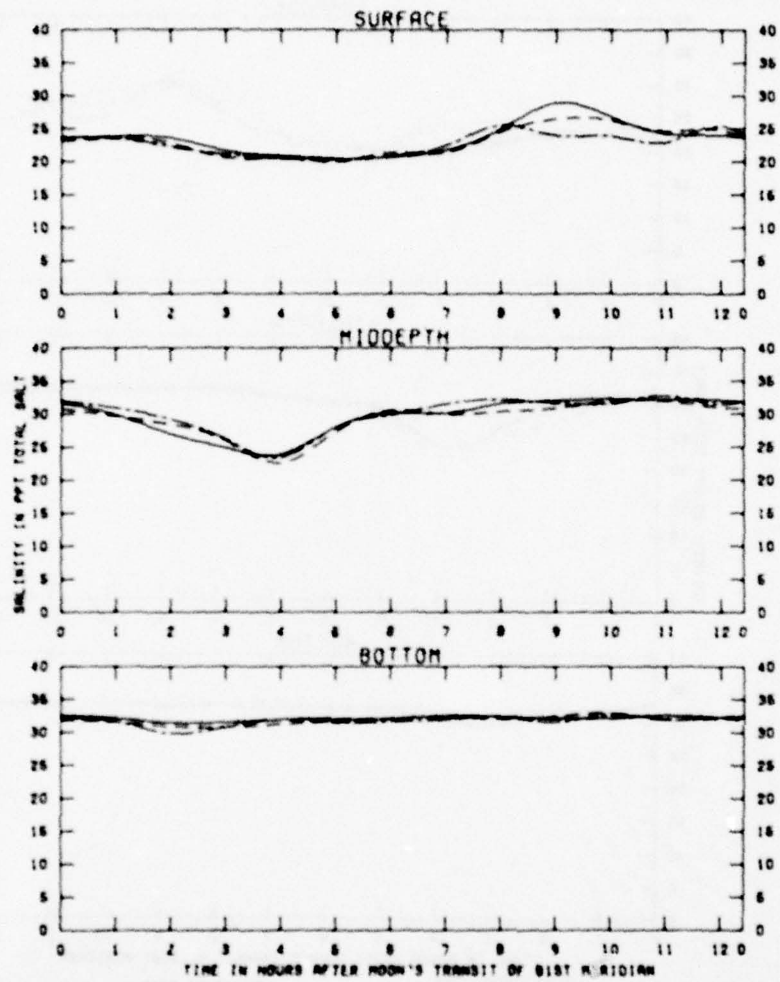
LEGEND

BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
2C

PLATE 80



TEST CONDITIONS

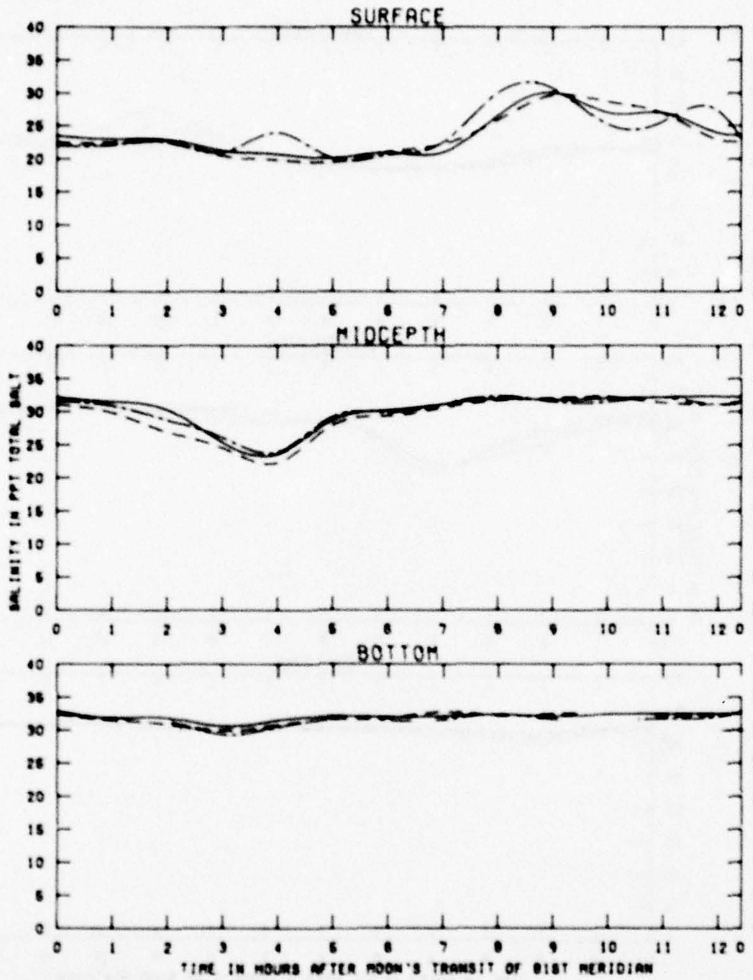
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8540.0 CFS

LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
DA



TEST CONDITIONS

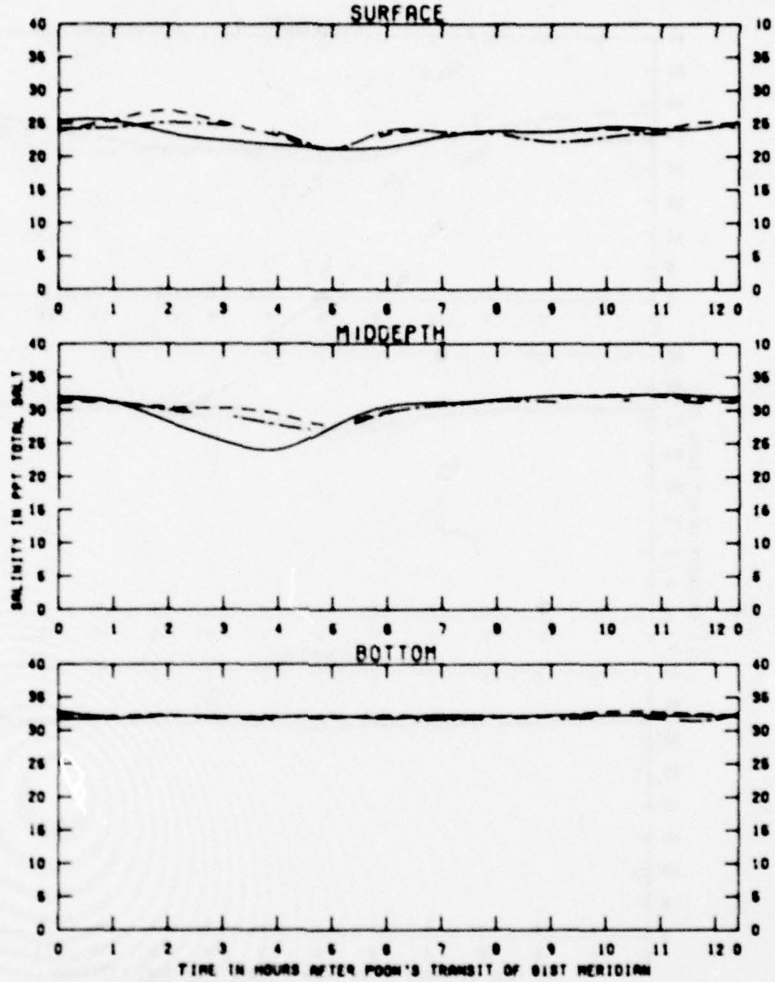
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

BASE	———
PLAN 1	— — —
PLAN 3	—·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
08



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

BASE

PLAN 1 — — —

PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
DAA

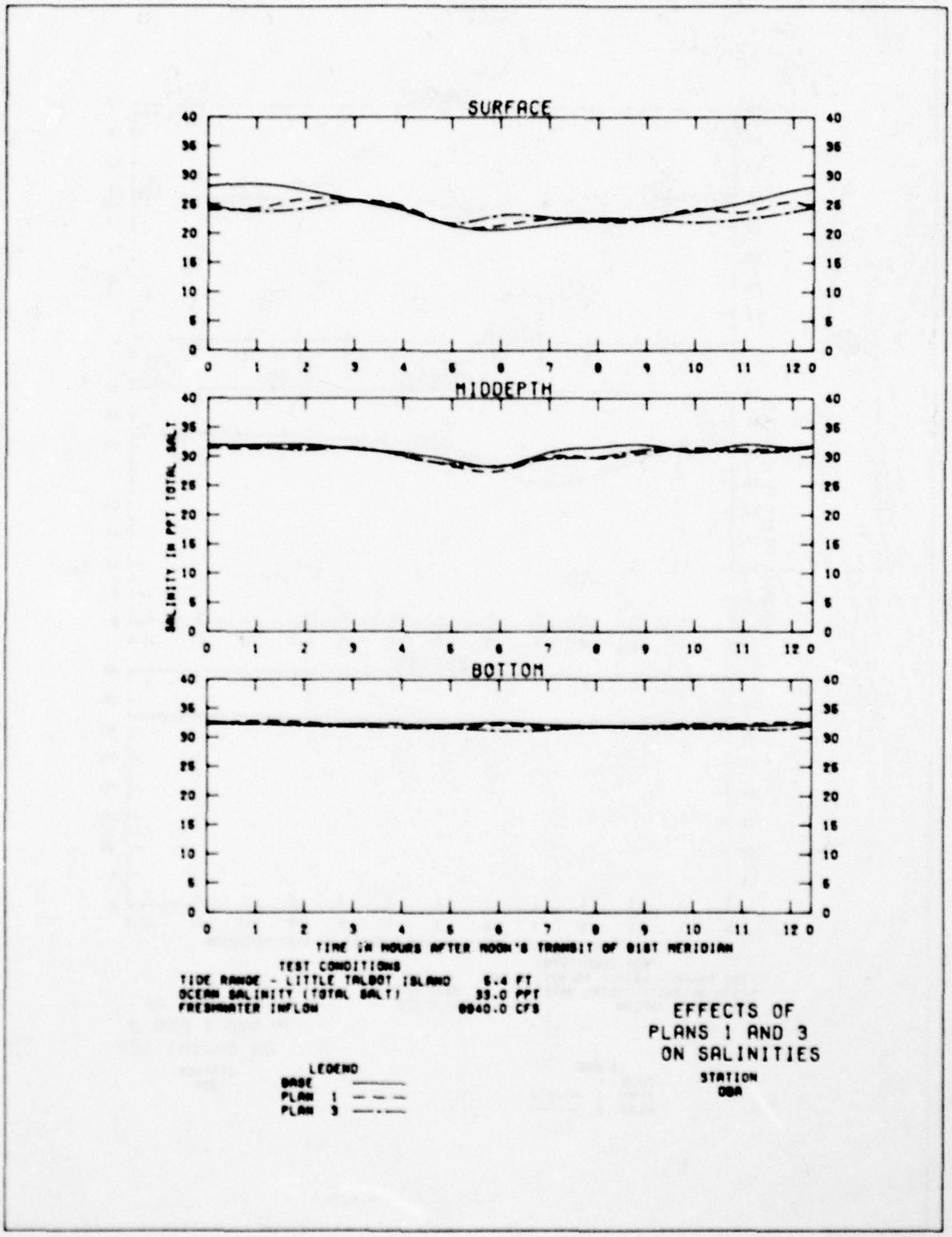
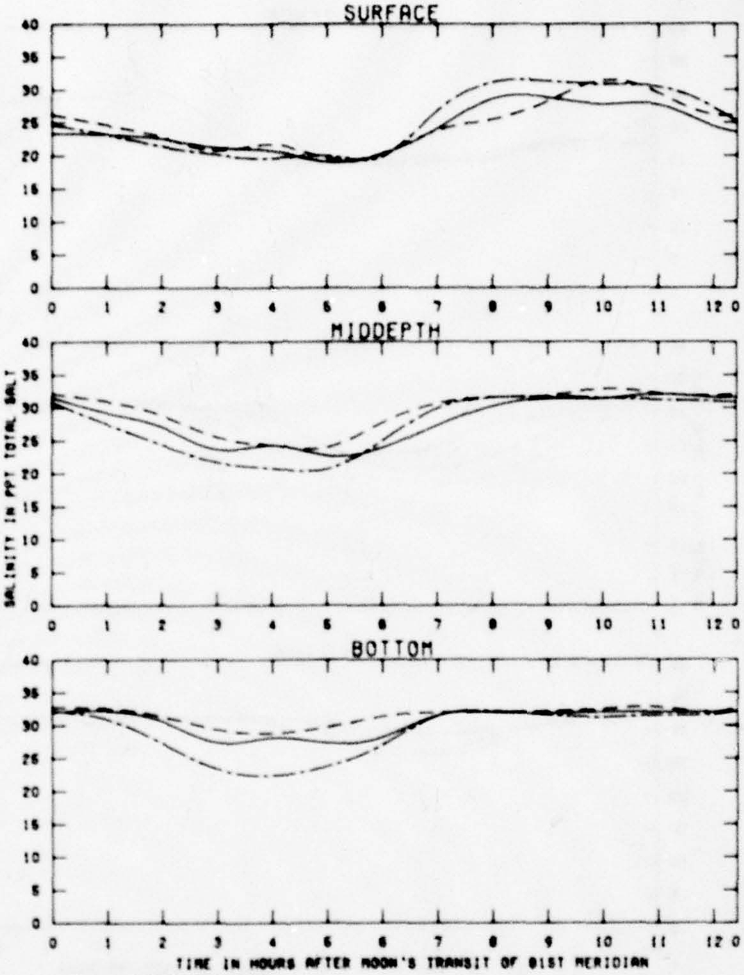

SURFACE
MIDDEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS
LEGEND
BASE
PLAN 1
PLAN 3
EFFECTS OF
PLANS 1 AND 3
ON SALINITIES
STATION
OBA

PLATE 84



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

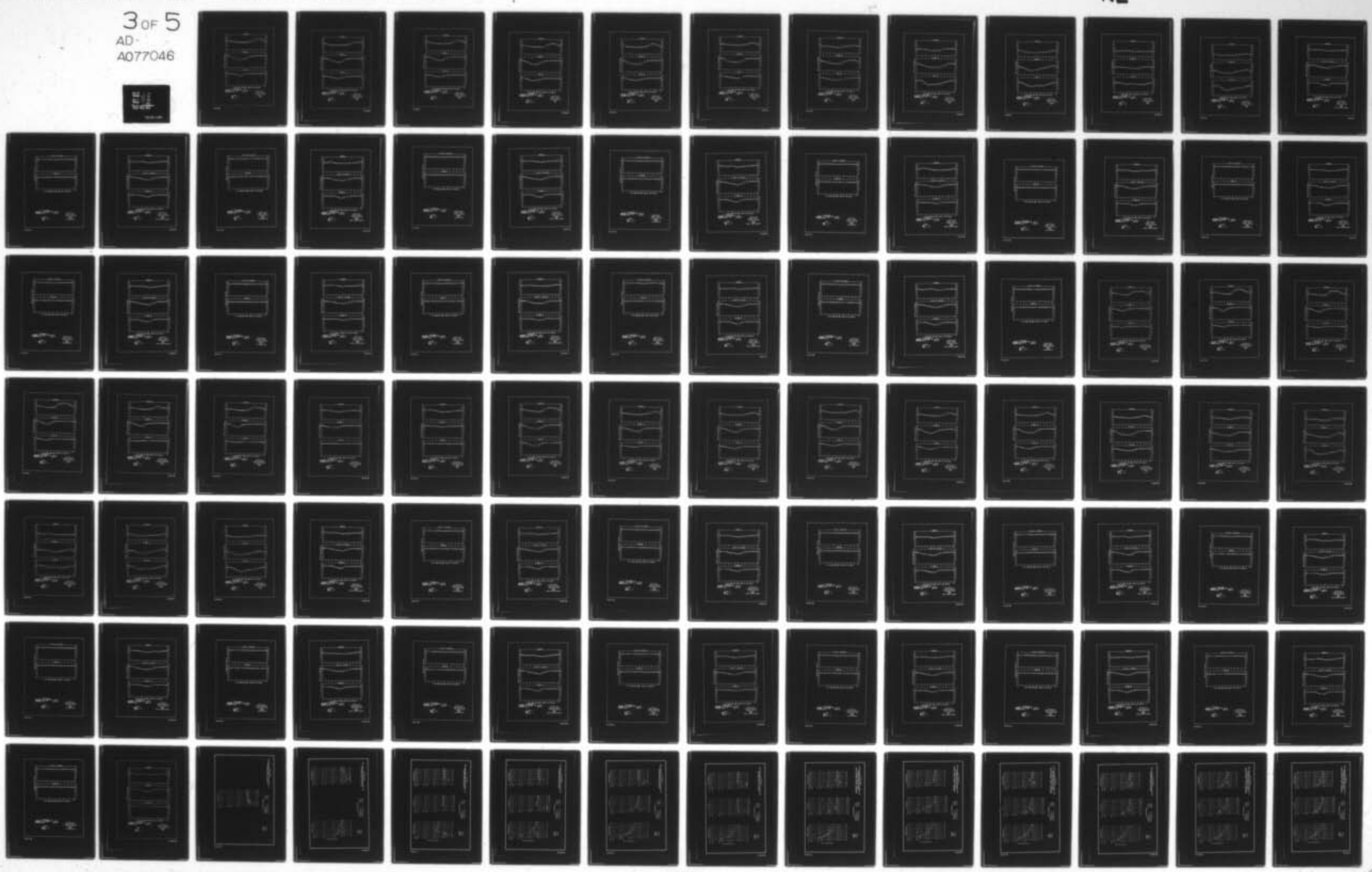
LEGEND
BASE
PLAN 1
PLAN 3

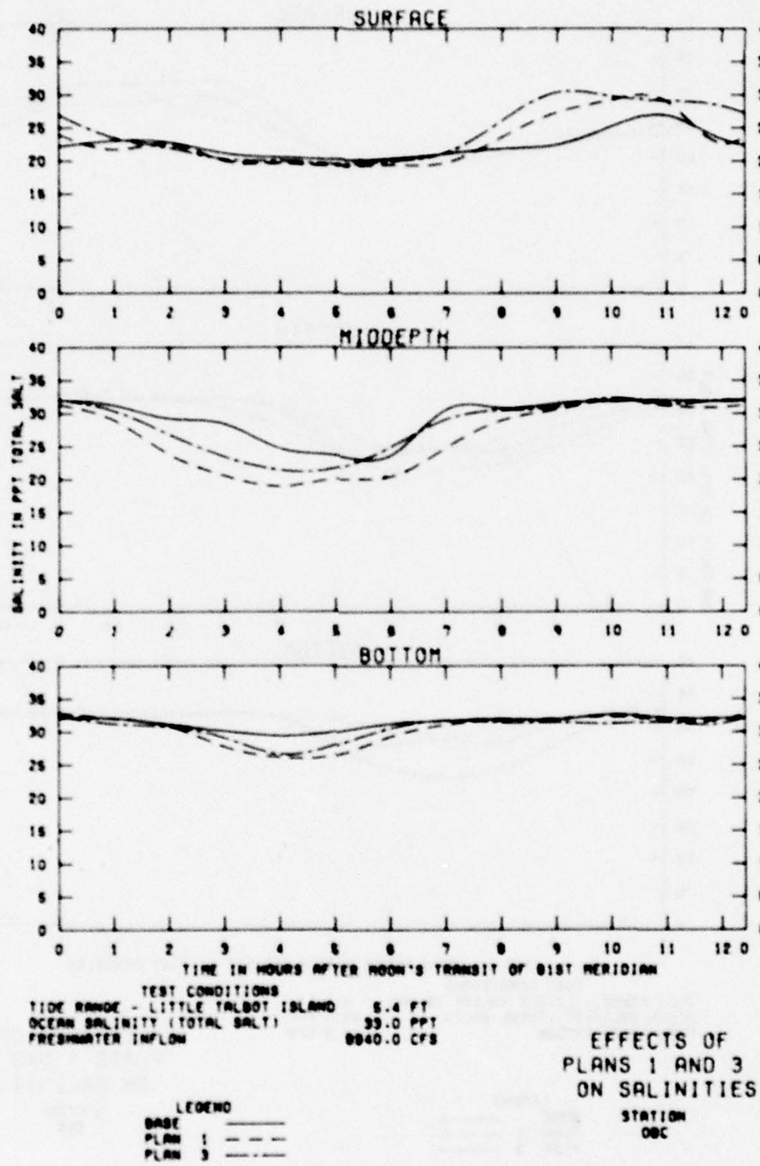
EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
088

AD-A077 046 ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MS F/G 8/8
MAYPORT-MILL COVE MODEL STUDY. REPORT 2. MAYPORT NAVAL BASIN ST--ETC(U)
AUG 79 N J BROGDON
UNCLASSIFIED WES-TR-HL-79-12 NL

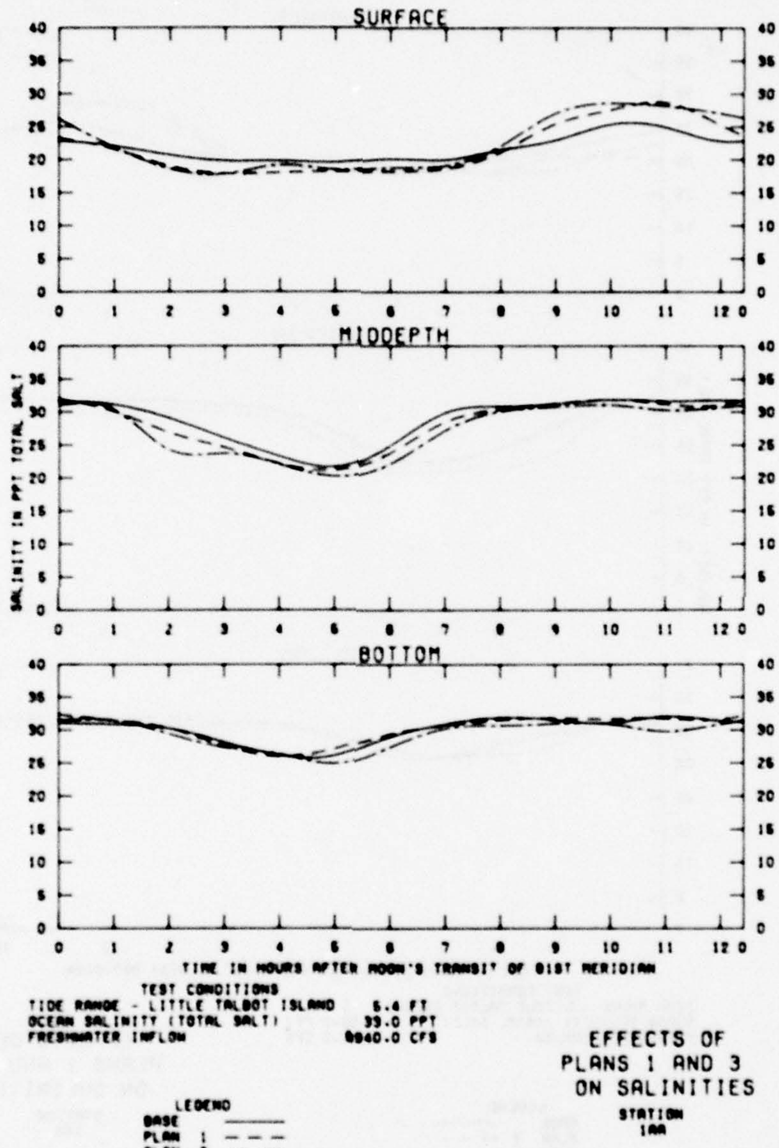
3 OF 5
AD-
A077046





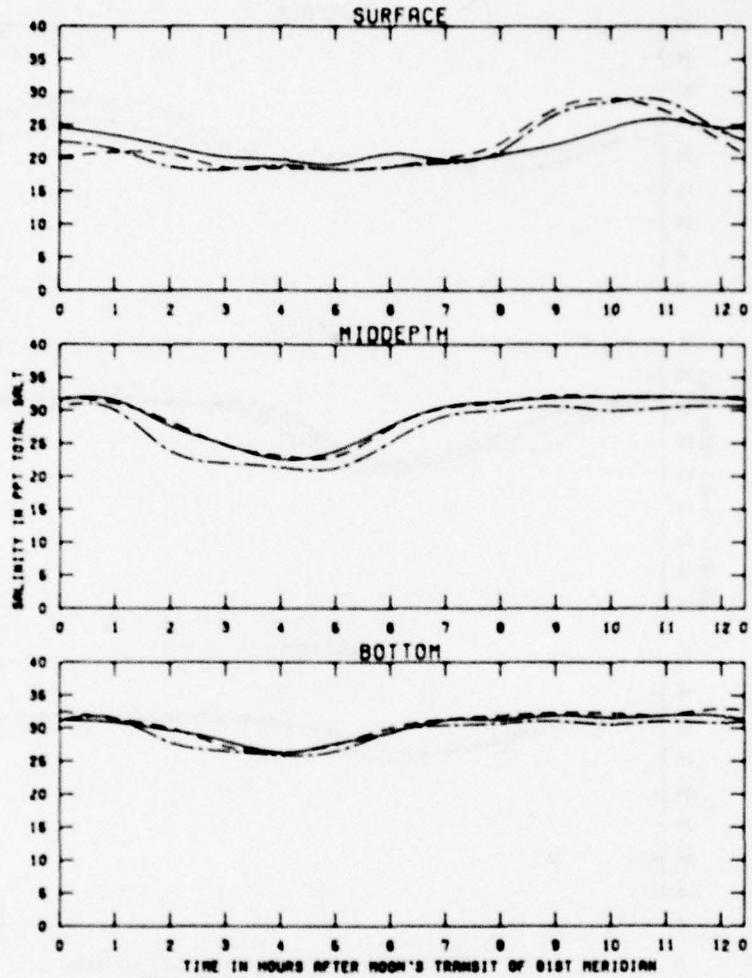
EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

PLATE 86



EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
1AA



TEST CONDITIONS

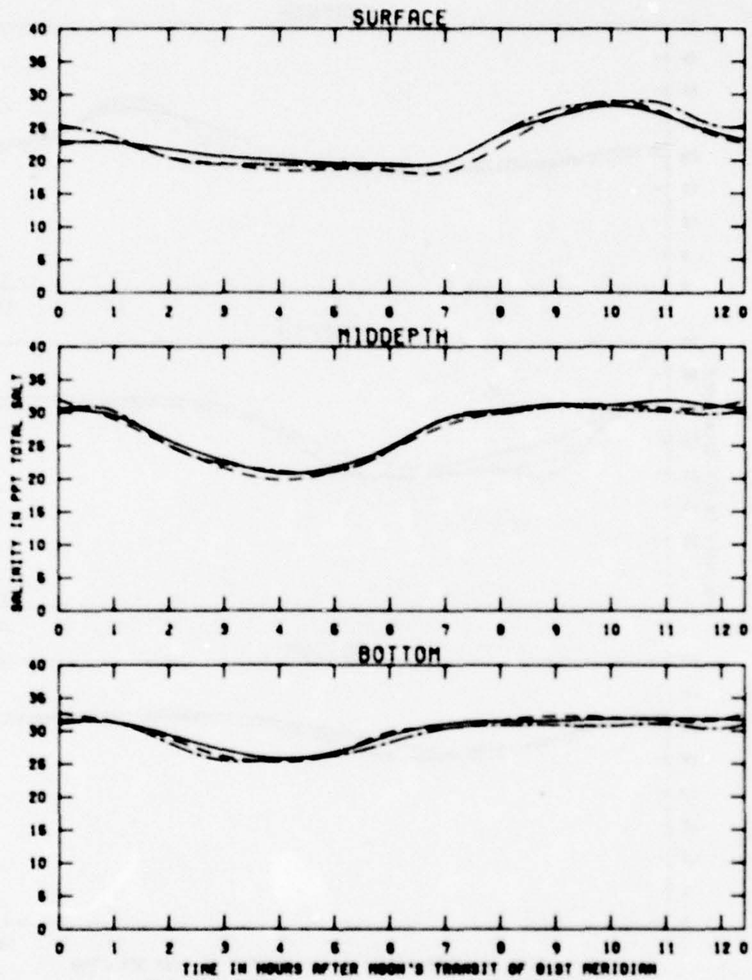
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS

LEGEND
BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
1AB

PLATE 88



TEST CONDITIONS

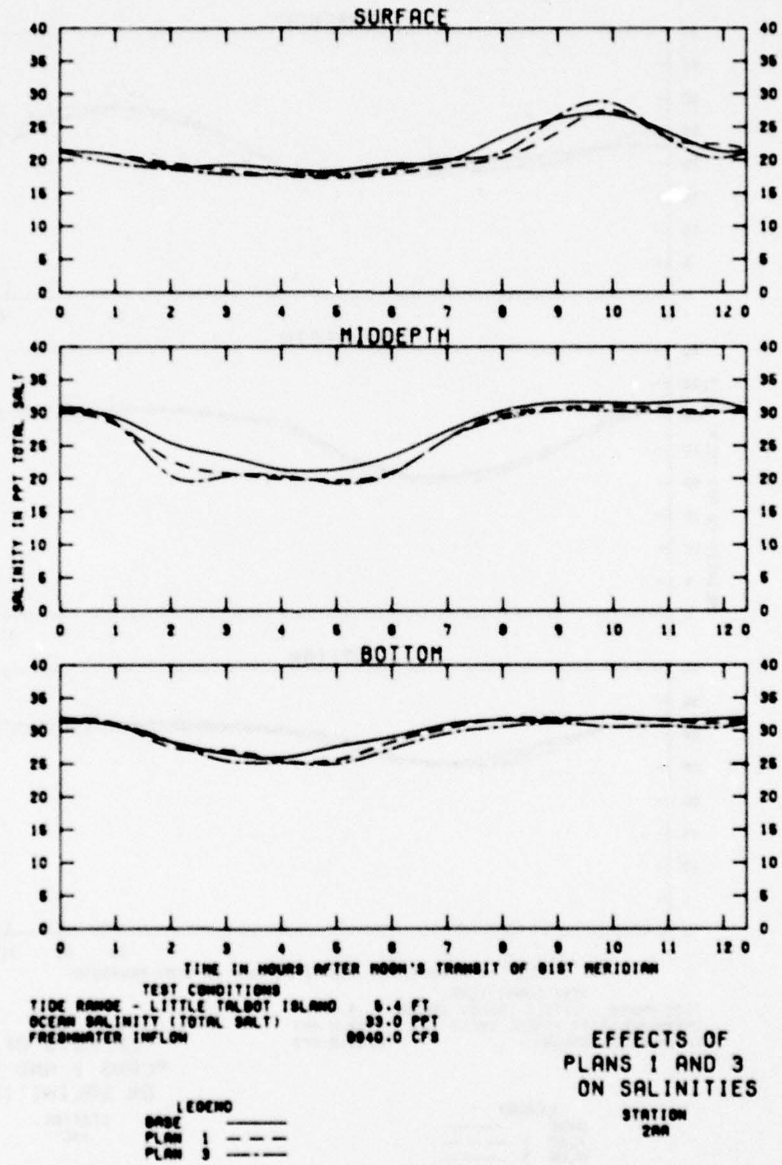
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE	———
PLAN 1	– – –
PLAN 3	—·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

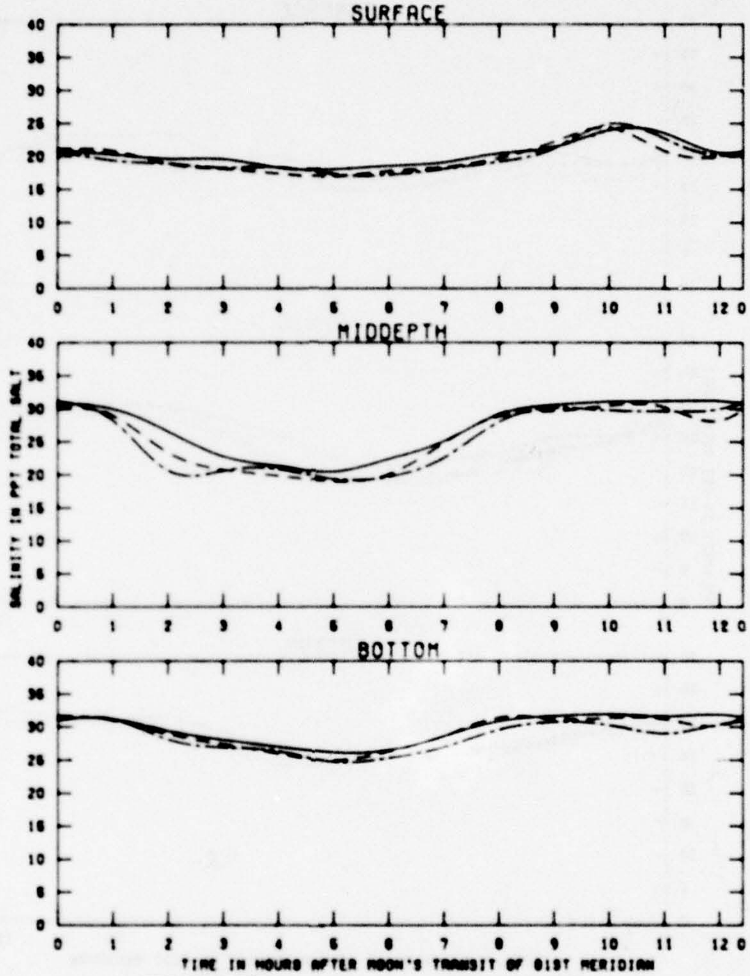
STATION
1AC



EFFECTS OF PLANS 1 AND 3 ON SALINITIES

STATION 2AA

PLATE 90



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
3A

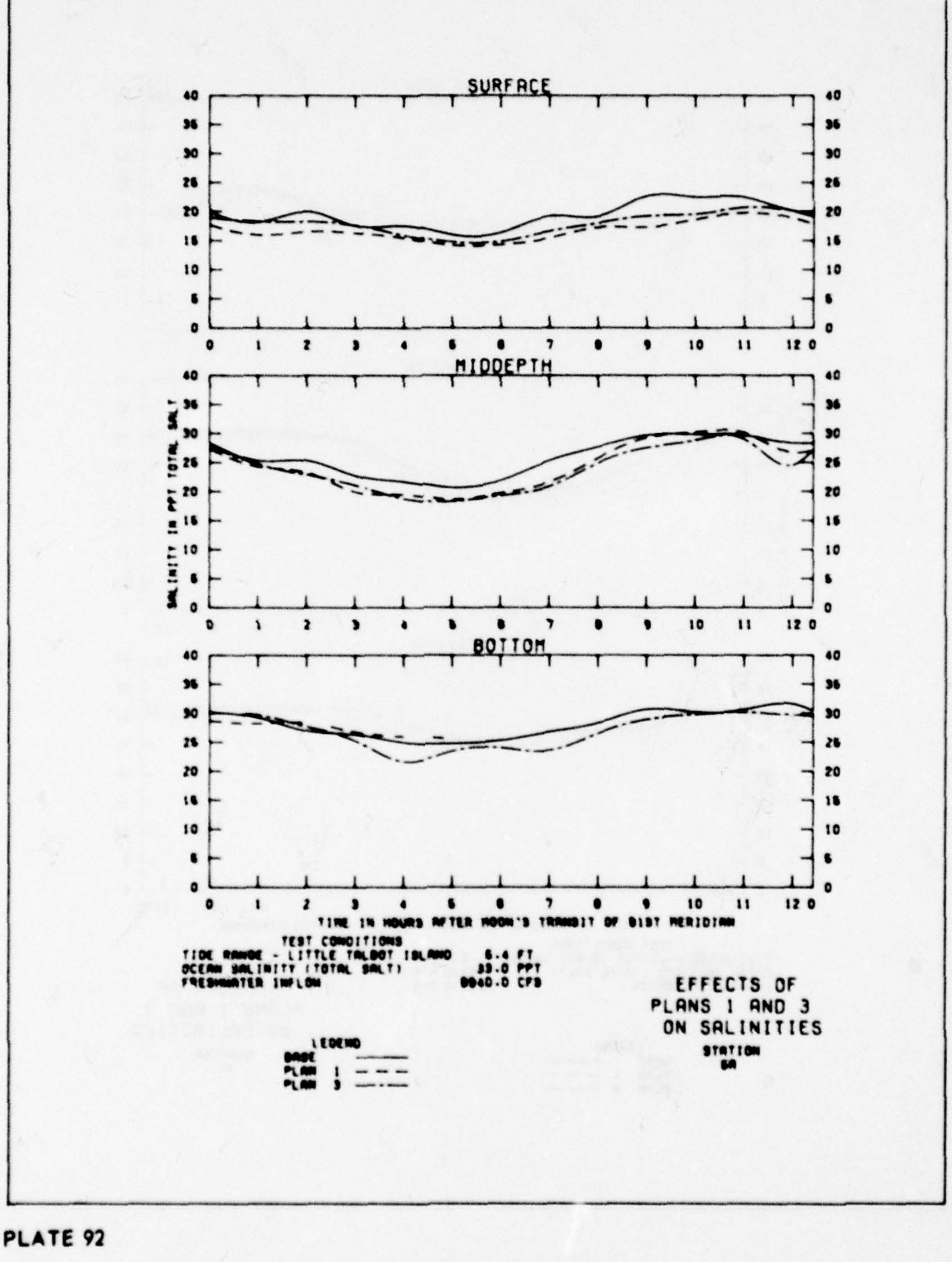
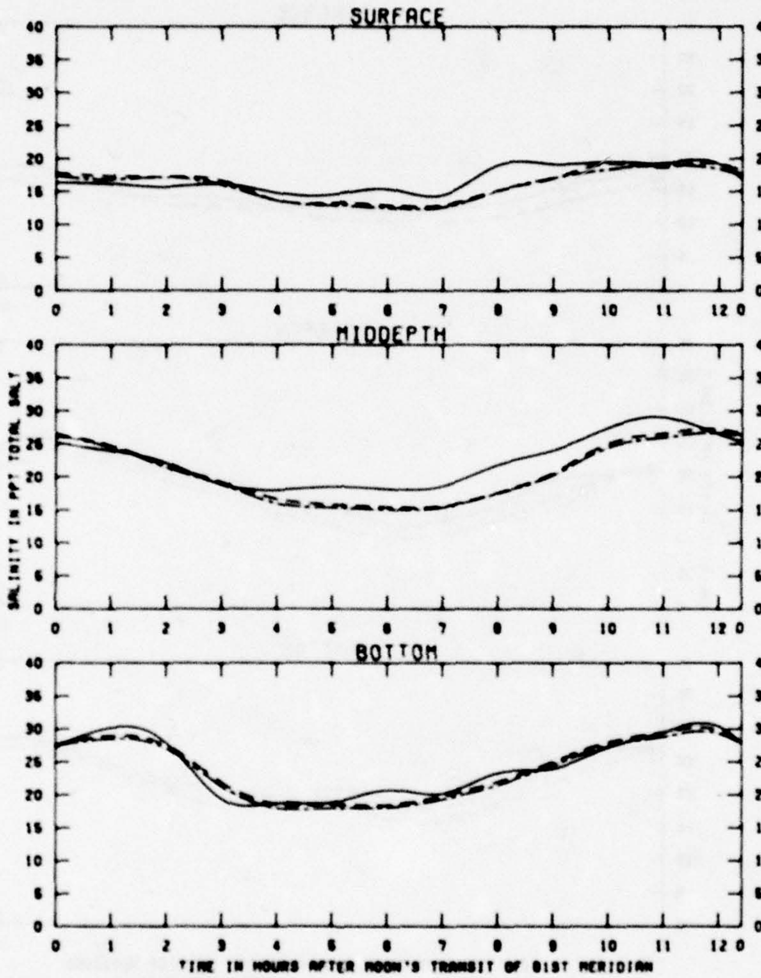

SURFACE
MIDDEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
0 5 10 15 20 25 30 35 40
0 1 2 3 4 5 6 7 8 9 10 11 12 0
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS
LEGEND
BASE
PLAN 1
PLAN 3
EFFECTS OF
PLANS 1 AND 3
ON SALINITIES
STATION
5A

PLATE 92

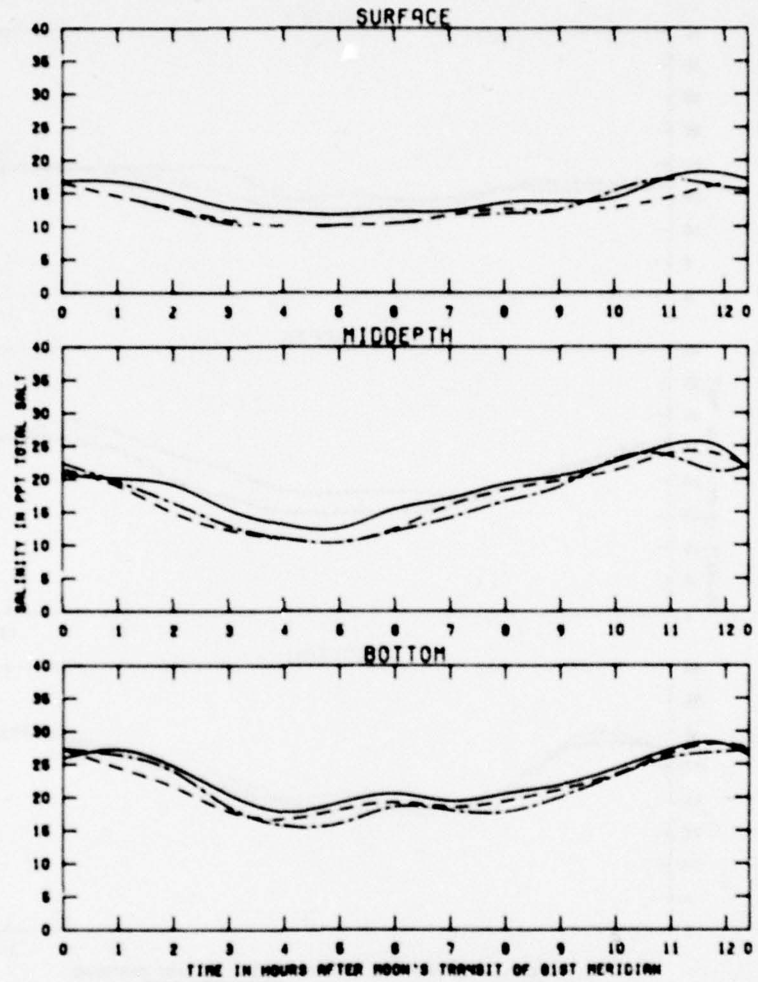


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ———
PLAN 1 – – –
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
78



TEST CONDITIONS

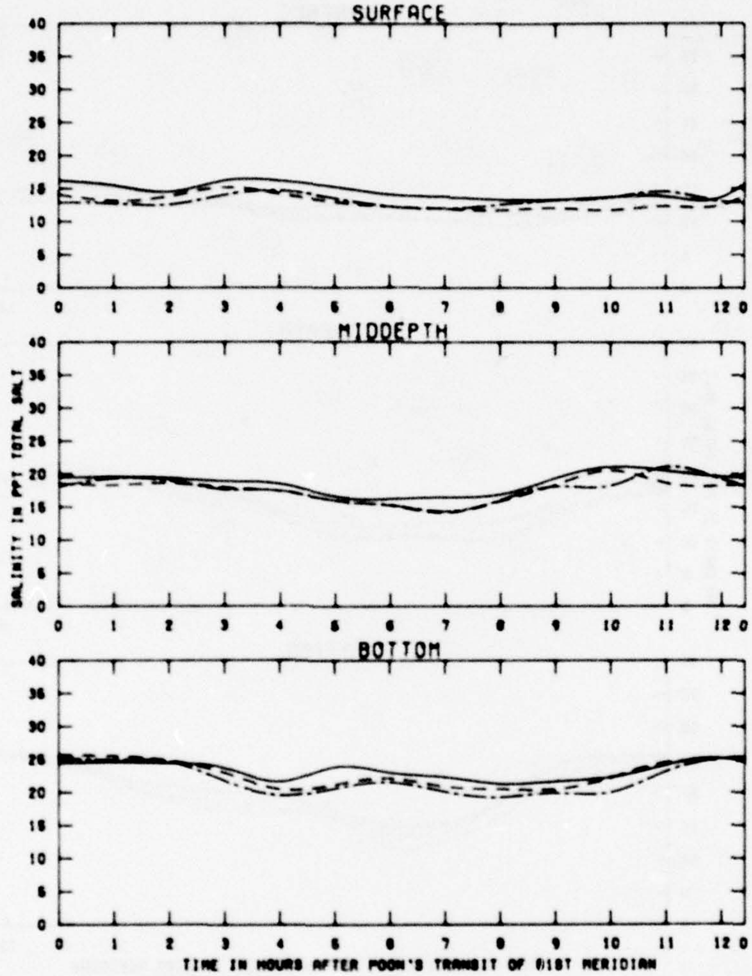
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND
BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
98

PLATE 94



TEST CONDITIONS

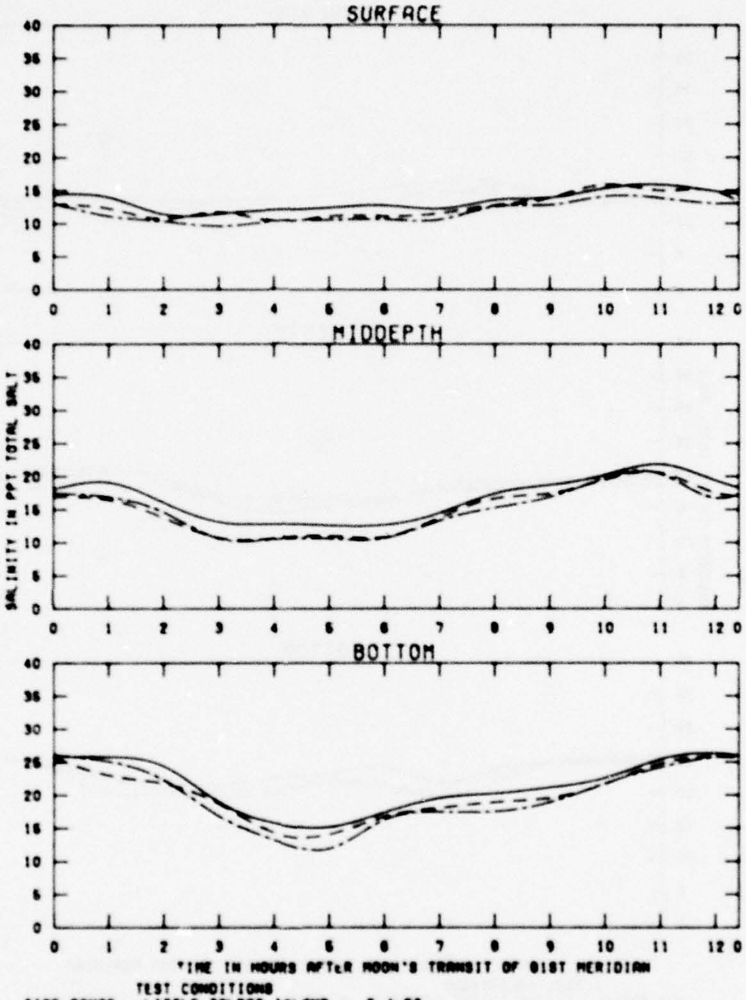
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND

BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
9AB



TEST CONDITIONS

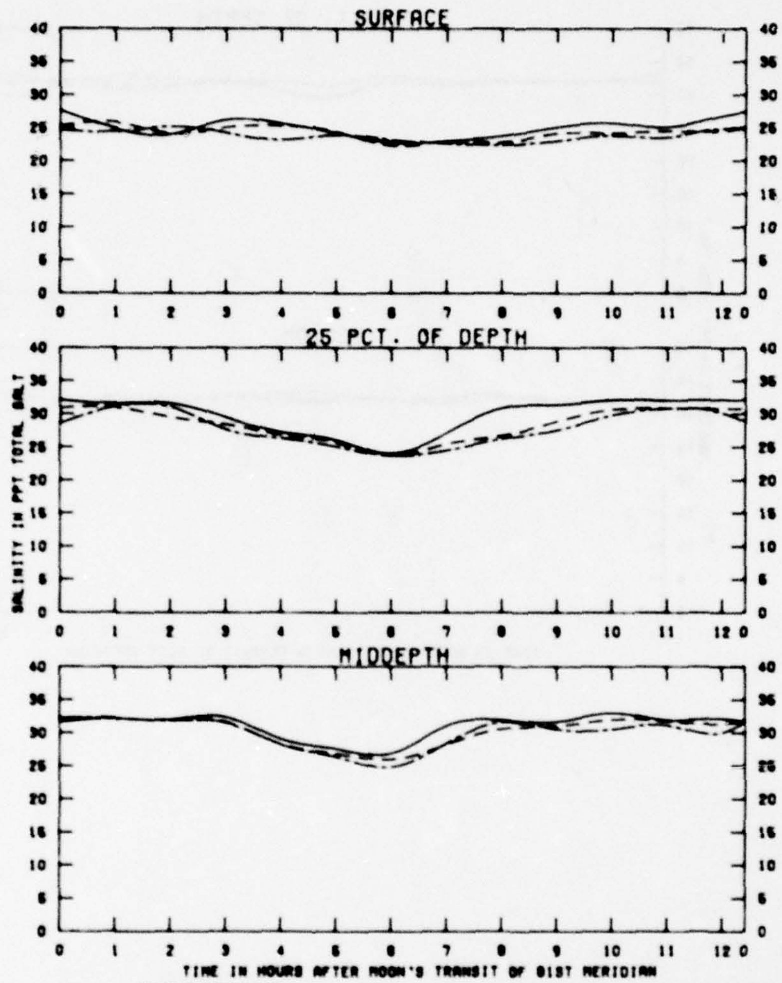
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
10A

PLATE 96



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

LEGEND

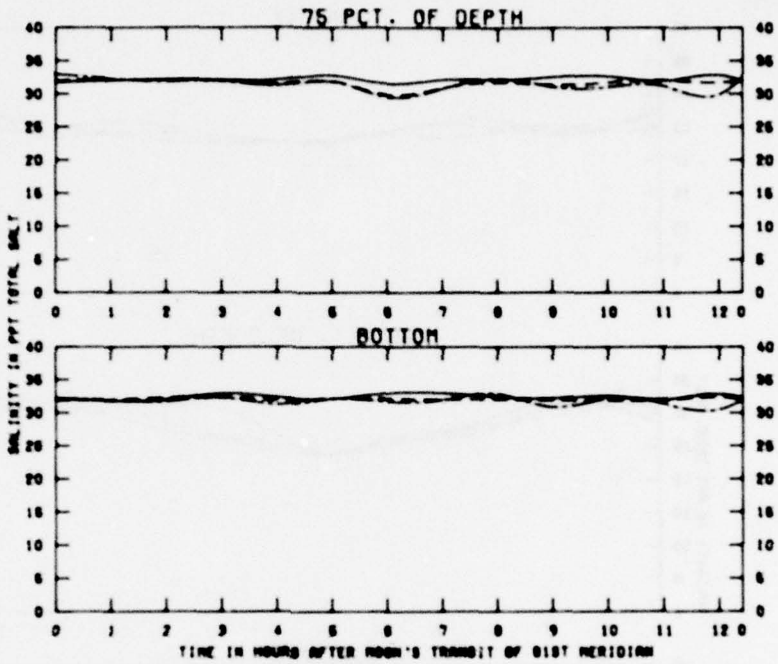
BASE ———

PLAN 1 — — —

PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
MDA
SURFACE, 25% DEPTH, AND MIDDEPTH

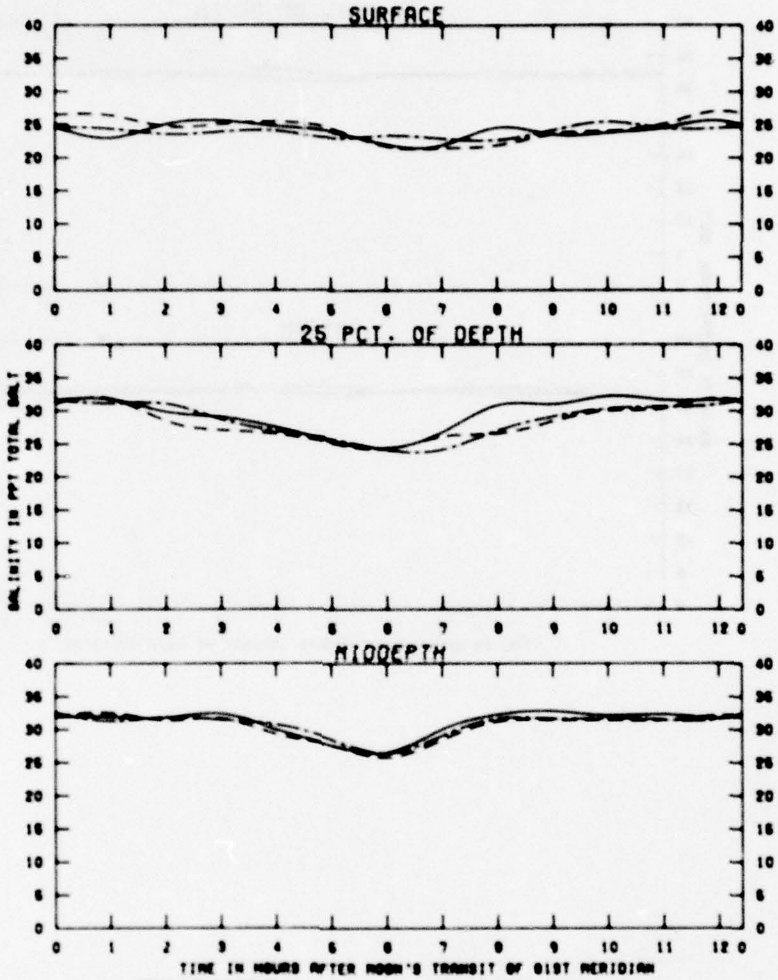


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
MDA
75% DEPTH AND BOTTOM



TEST CONDITIONS

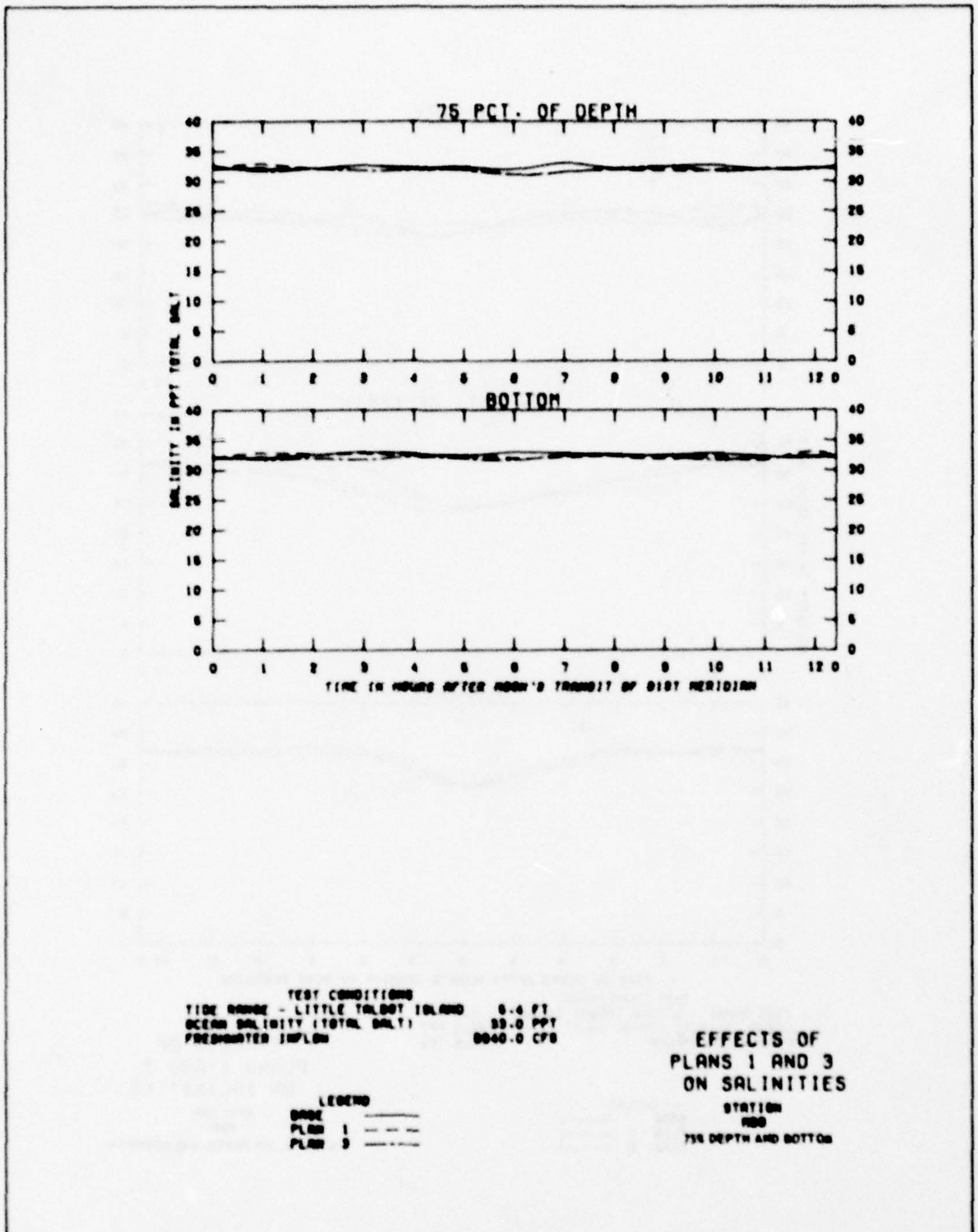
TIDE RANGE - LITTLE TALBOT ISLAND 6.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 0040.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

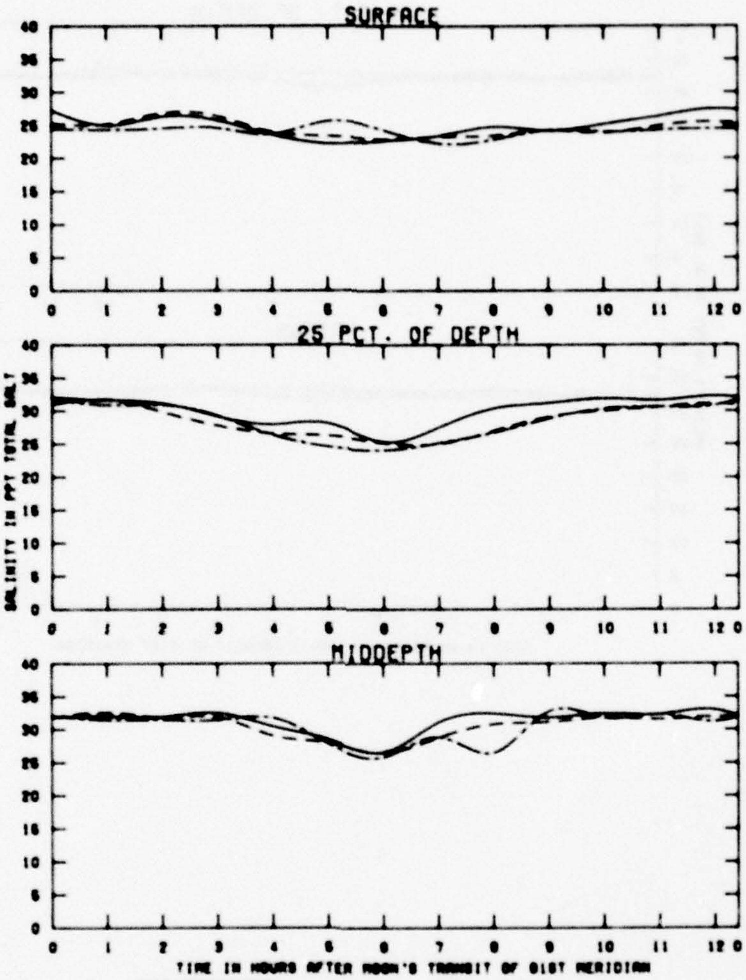
STATION
[illegible]
SURFACE, 25% DEPTH, AND MIDDEPTH

PLATE 99



75 PCT. OF DEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW
LEGEND
BASE
PLAN 1
PLAN 3
EFFECTS OF
PLANS 1 AND 3
ON SALINITIES
STATION
75% DEPTH AND BOTTOM

PLATE 100



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ————

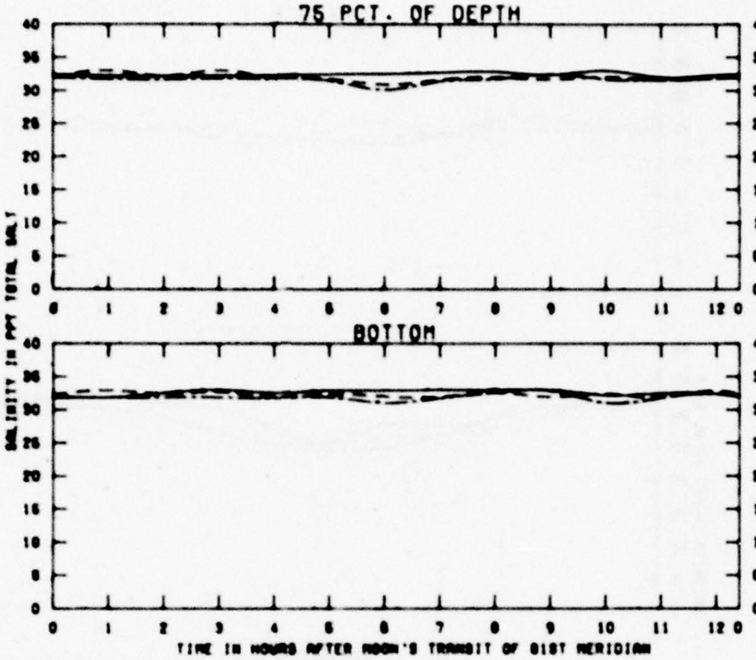
PLAN 1 — — —

PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION

SURFACE, 25% DEPTH, AND MIDDEPTH



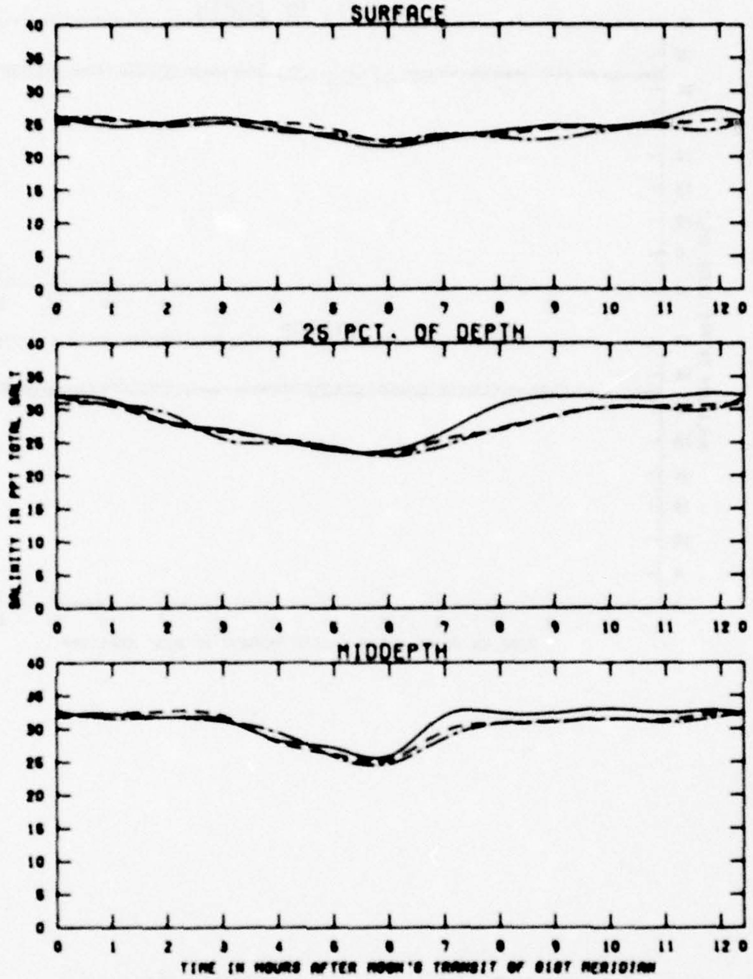
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
ABC
75% DEPTH AND BOTTOM

PLATE 102



TEST CONDITIONS

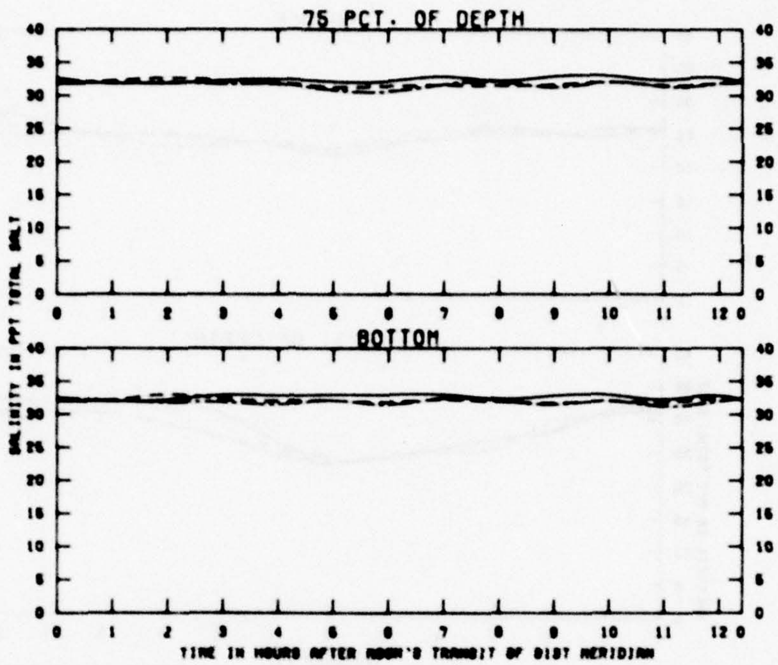
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	0840.0 CFS

LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF PLANS 1 AND 3 ON SALINITIES

STATION
ABO
SURFACE, 25% DEPTH, AND MIDDEPTH



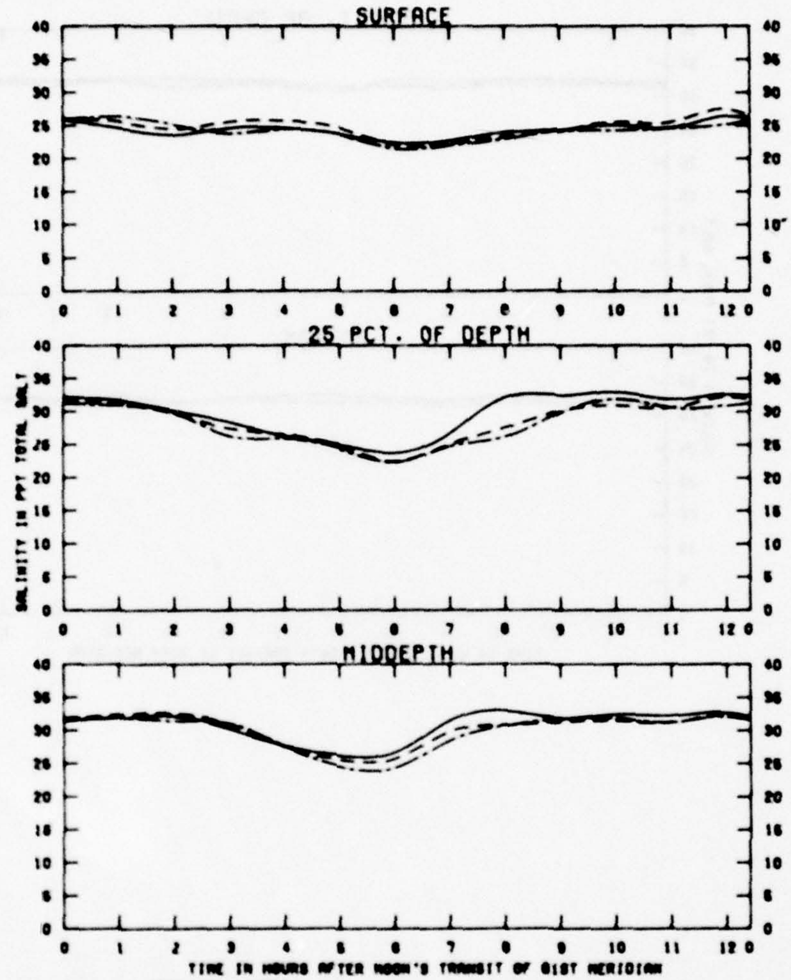
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
ABO
75% DEPTH AND BOTTOM

PLATE 104

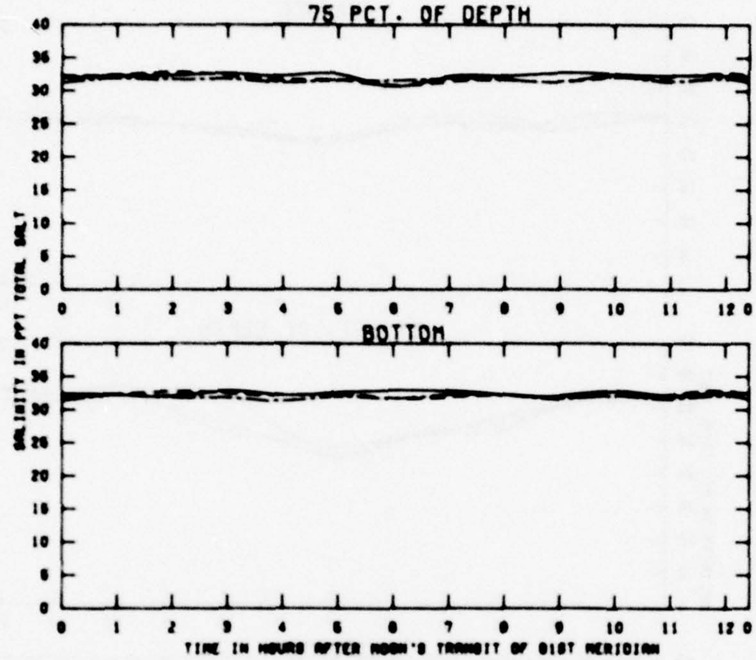


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 6.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND
BASE
PLAN 1
PLAN 3

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
MDE
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

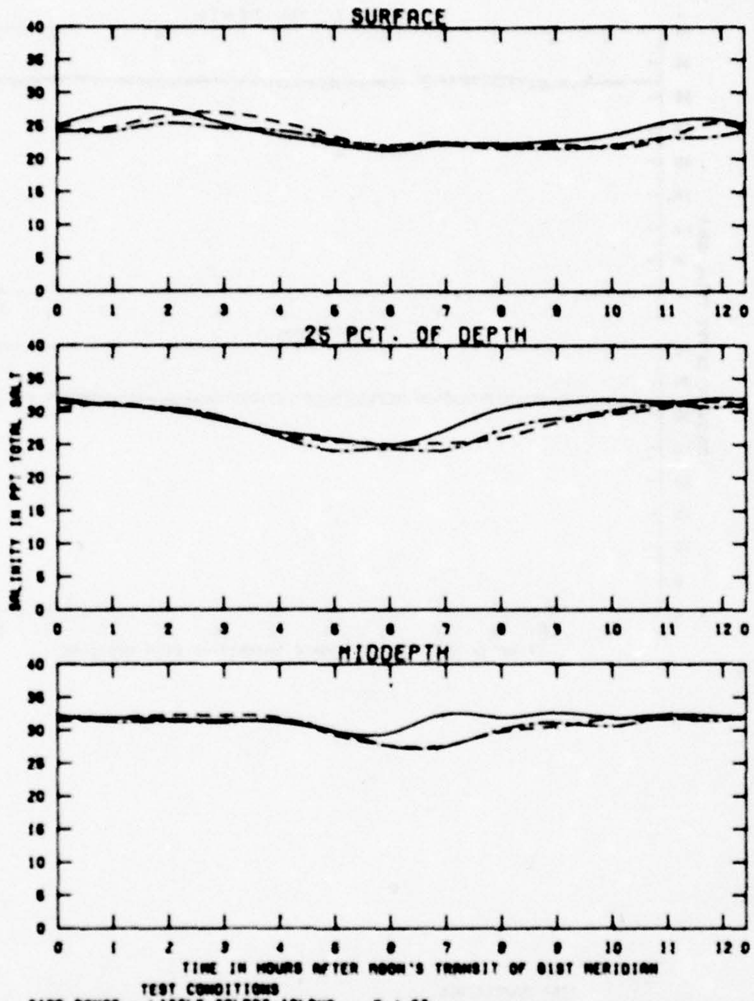
LEGEND

BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
MDE
75% DEPTH AND BOTTOM

PLATE 106



TEST CONDITIONS

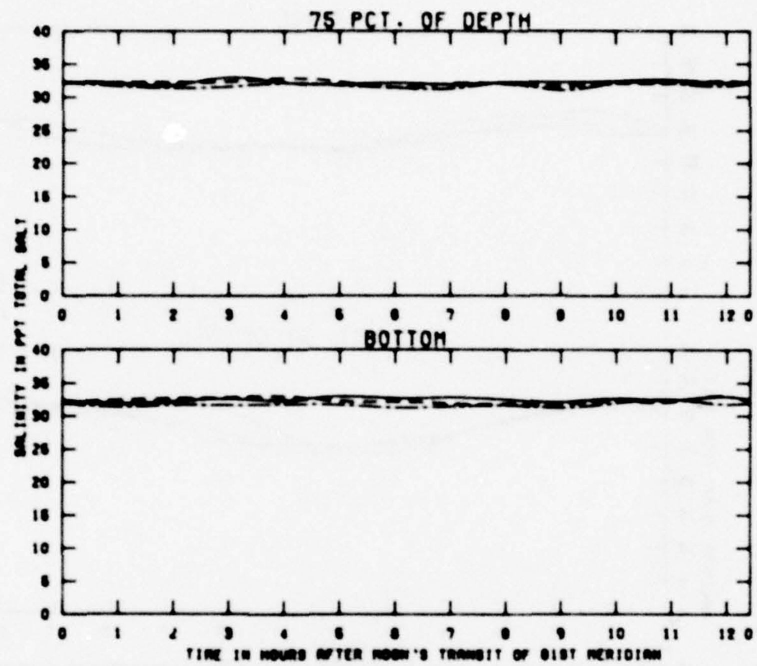
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
MDF
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

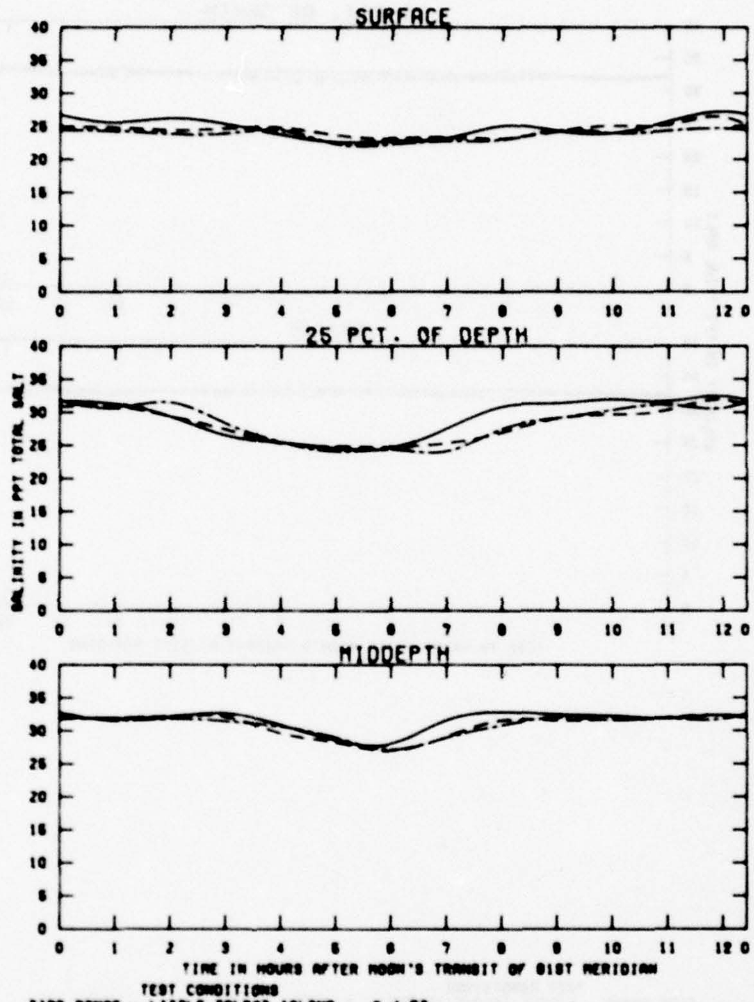
BASE ————

PLAN 1 — — —

PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
MDF
75% DEPTH AND BOTTOM



TEST CONDITIONS

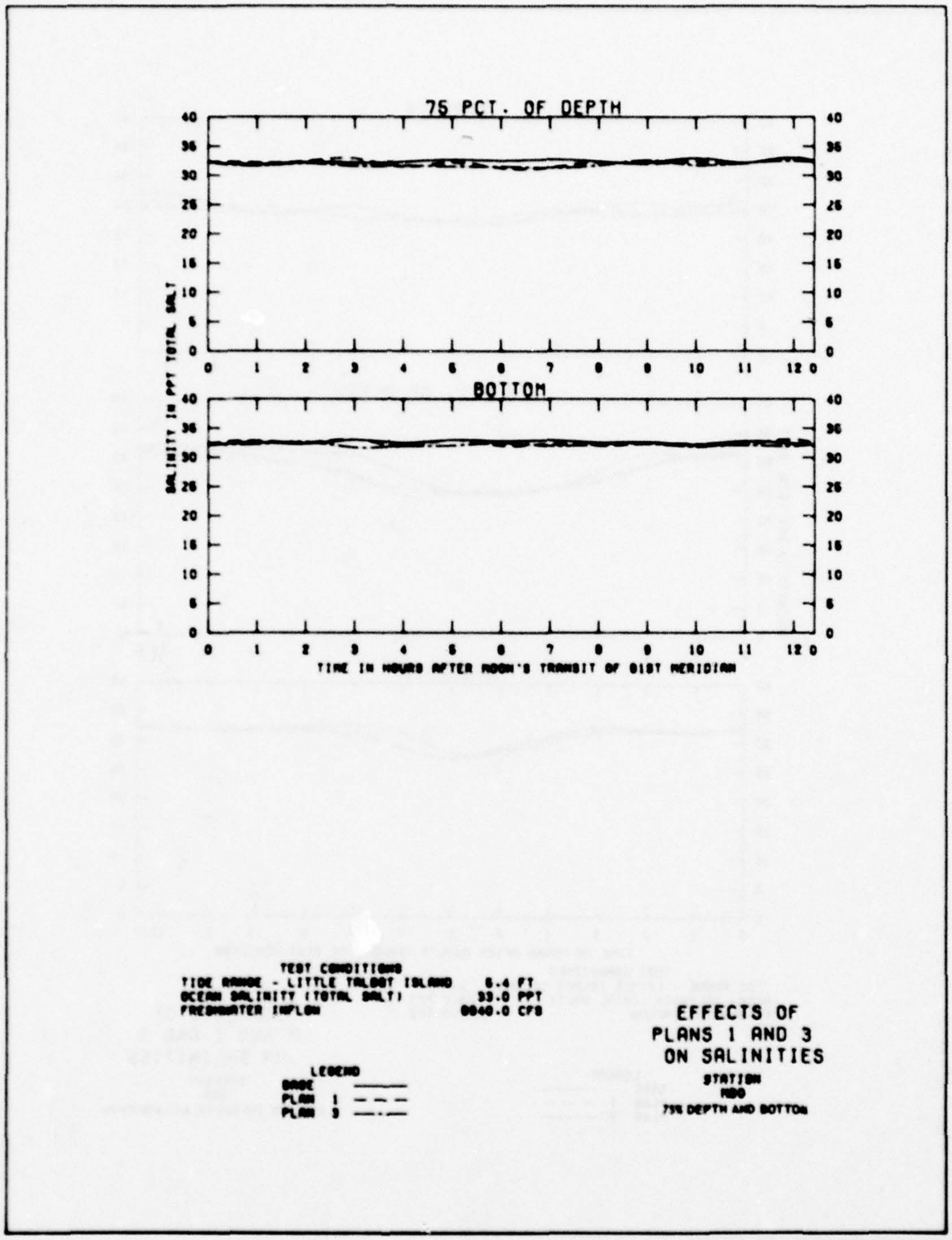
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

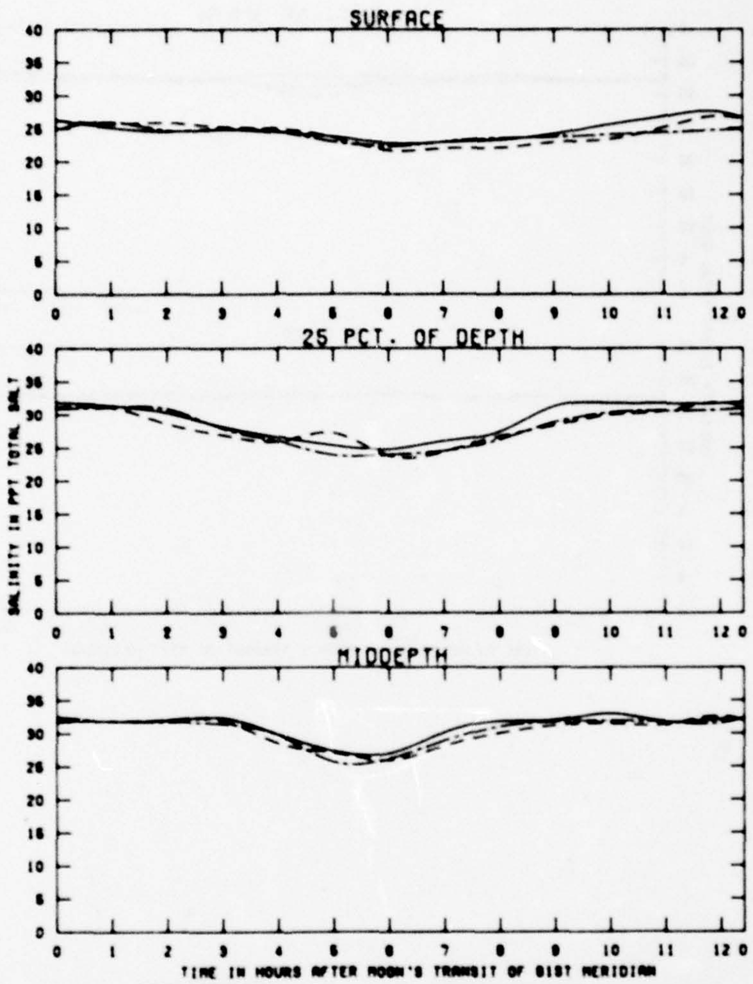
EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
NBG
SURFACE, 25% DEPTH, AND MIDDEPTH



75 PCT. OF DEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
0 5 10 15 20 25 30 35 40
0 1 2 3 4 5 6 7 8 9 10 11 12 0
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW
LEGEND
BASE
PLAN 1
PLAN 3
EFFECTS OF
PLANS 1 AND 3
ON SALINITIES
STATION
75% DEPTH AND BOTTOM

PLATE 110



TEST CONDITIONS

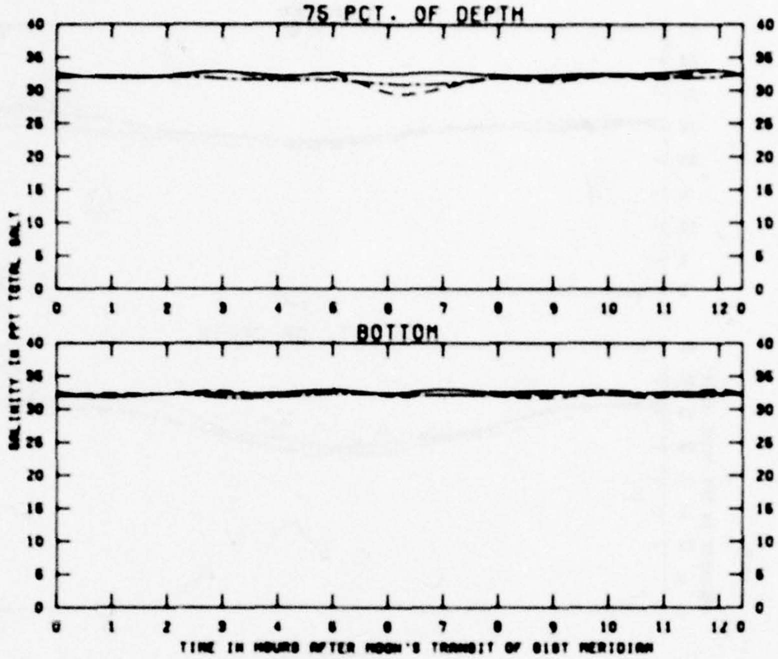
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
MDM
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

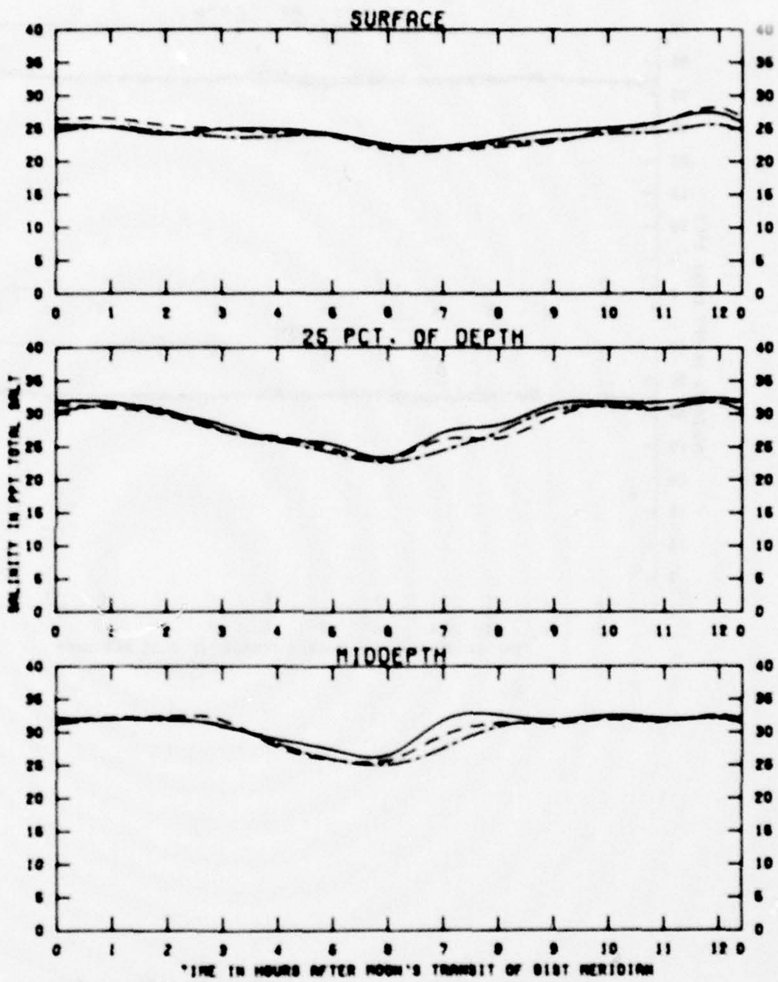
LEGEND

BASE	———
PLAN 1	— — —
PLAN 3	—·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
RDM
75% DEPTH AND BOTTOM

PLATE 112



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

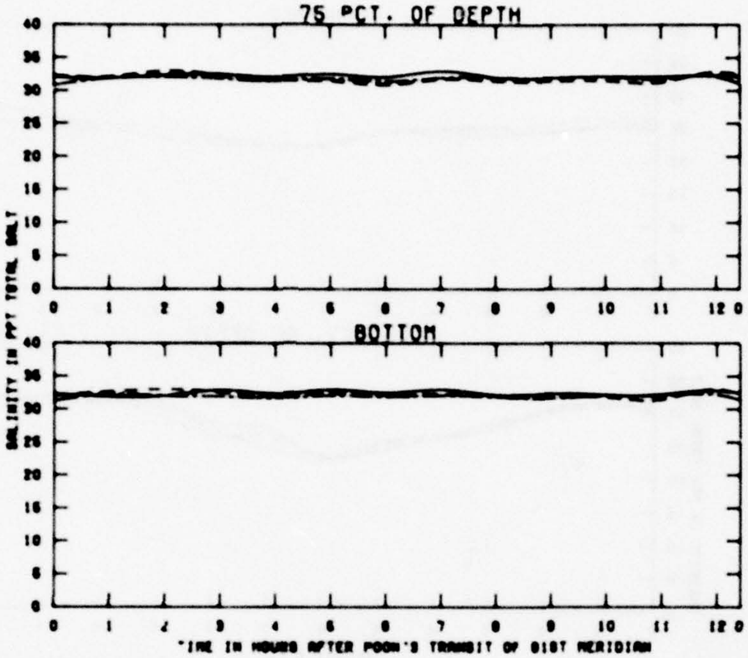
LEGEND

BASE ———
PLAN 1 – – –
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
MBJ

SURFACE, 25% DEPTH, AND MIDDEPTH



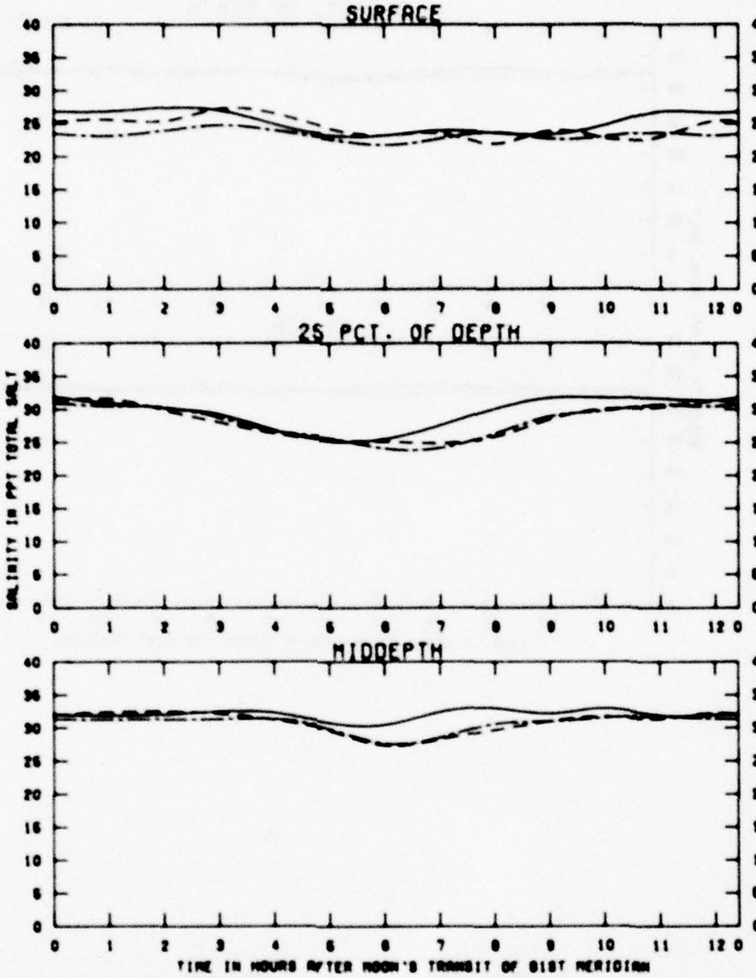
TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND
BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES
STATION
WBJ
75% DEPTH AND BOTTOM

PLATE 114



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

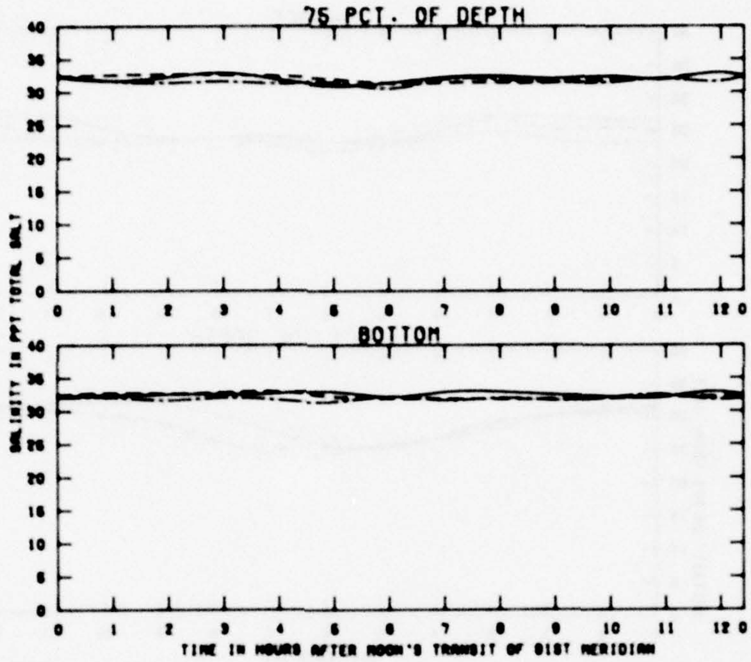
BASE ———

PLAN 1 — — —

PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
MDK
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

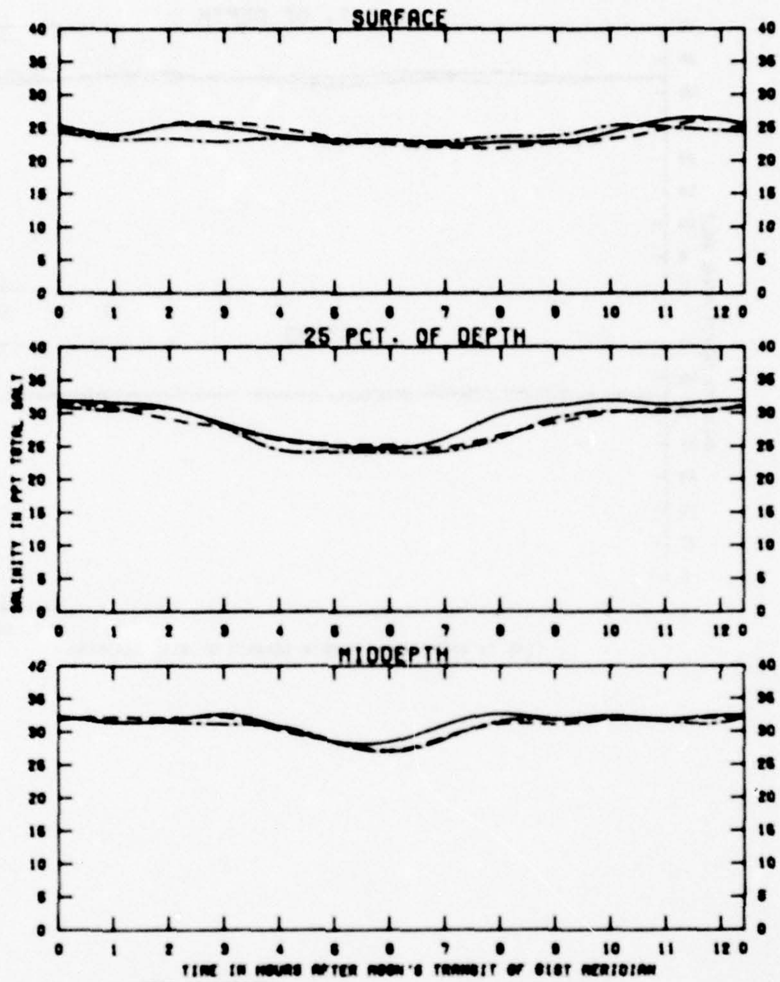
LEGEND

BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
RBK
75% DEPTH AND BOTTOM

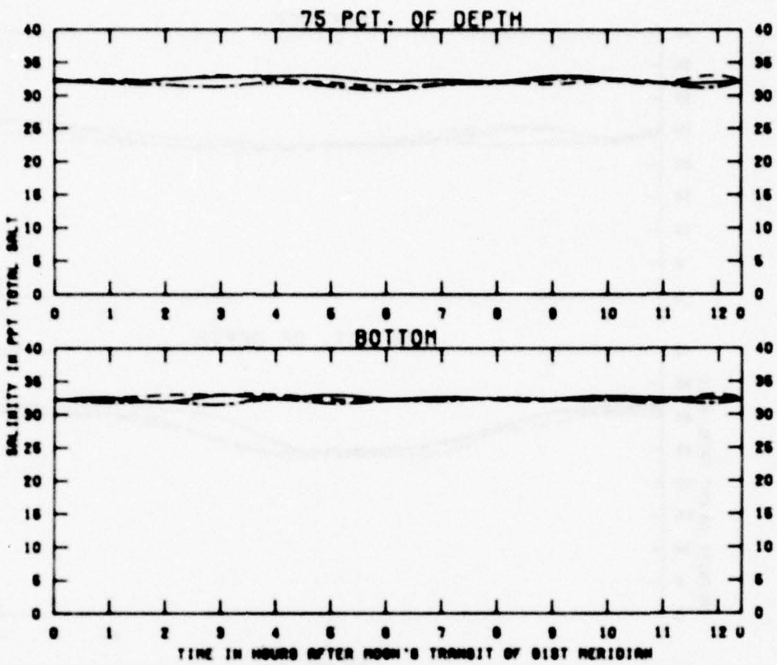
PLATE 116



TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 35.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES
STATION
MDL
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

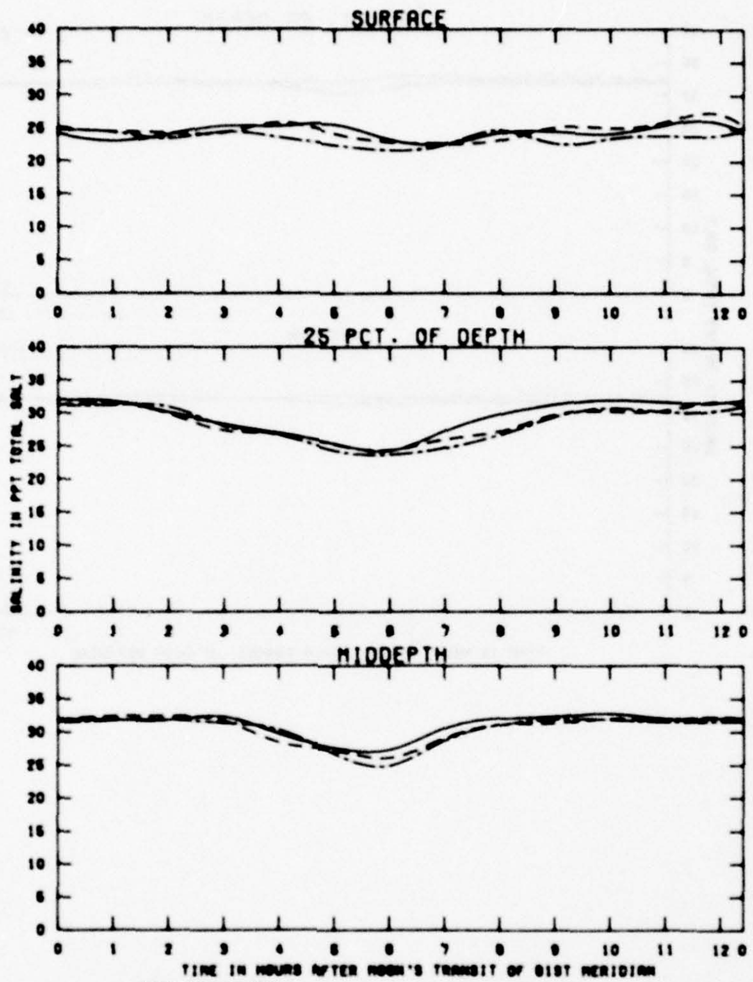
BASE ———

PLAN 1 — — —

PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

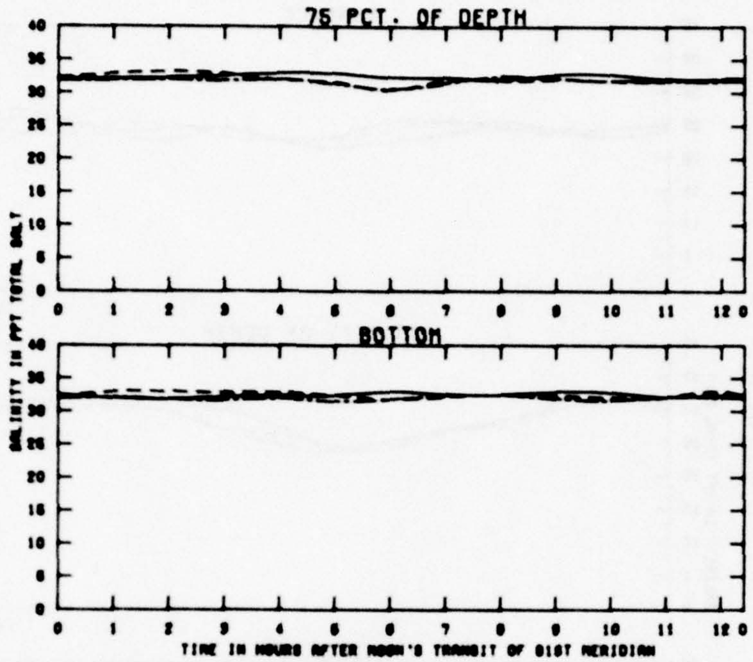
STATION
MBL
75% DEPTH AND BOTTOM



TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES
STATION
[illegible]
SURFACE, 25% DEPTH, AND MIDDEPTH



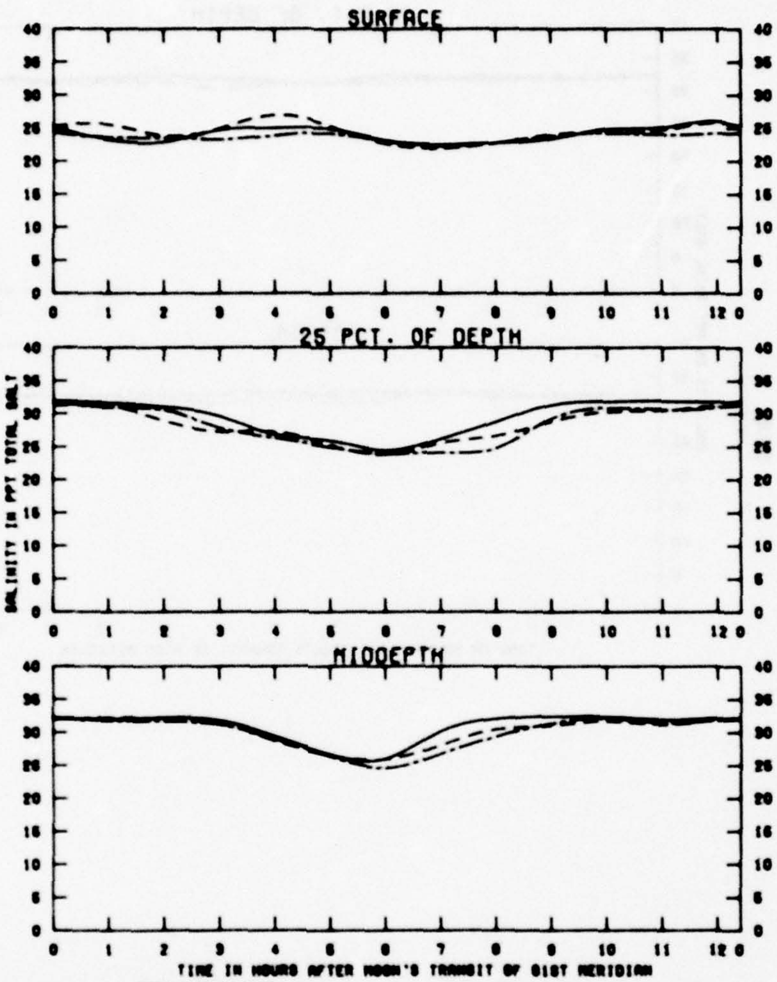
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ————
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF
PLANS 1 AND 3
ON SALINITIES

STATION
NBM
75% DEPTH AND BOTTOM

PLATE 120



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	6040.0 CFS

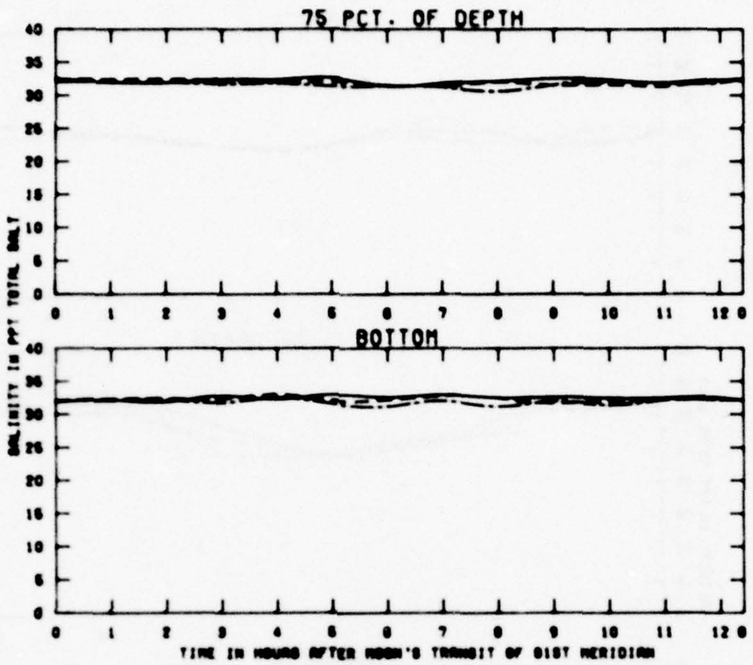
LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF PLANS 1 AND 3 ON SALINITIES

STATION

SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	[illegible] CFS

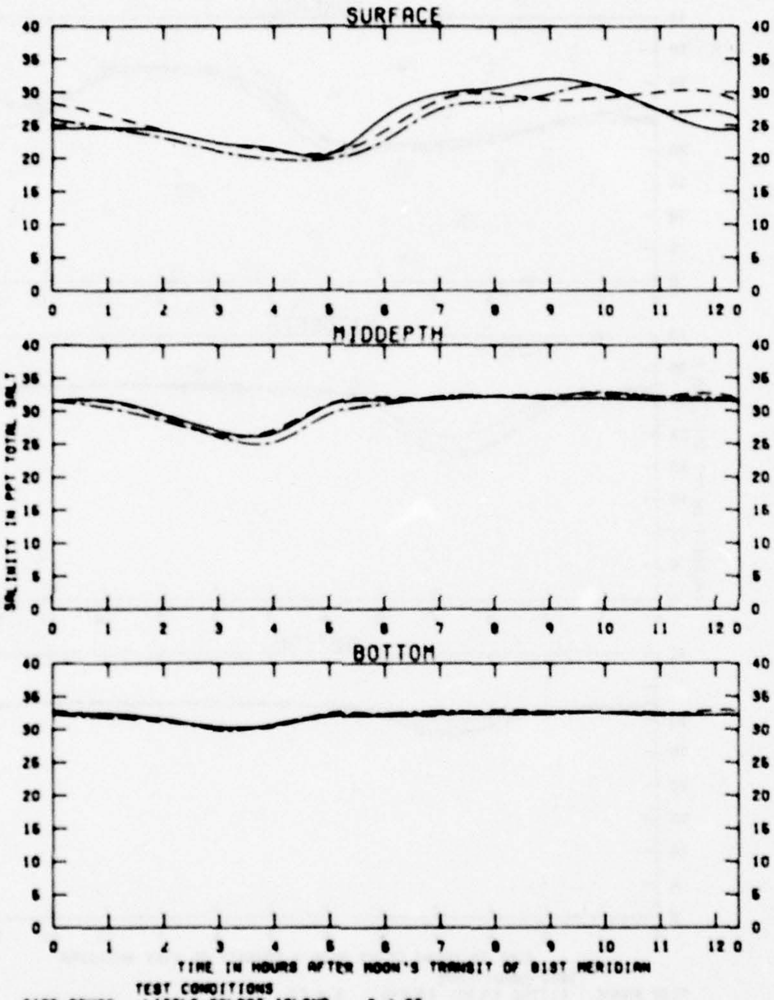
LEGEND

BASE ———
PLAN 1 — — —
PLAN 3 —·—

EFFECTS OF PLANS 1 AND 3 ON SALINITIES

STATION
[illegible]
75% DEPTH AND BOTTOM

PLATE 122



TEST CONDITIONS

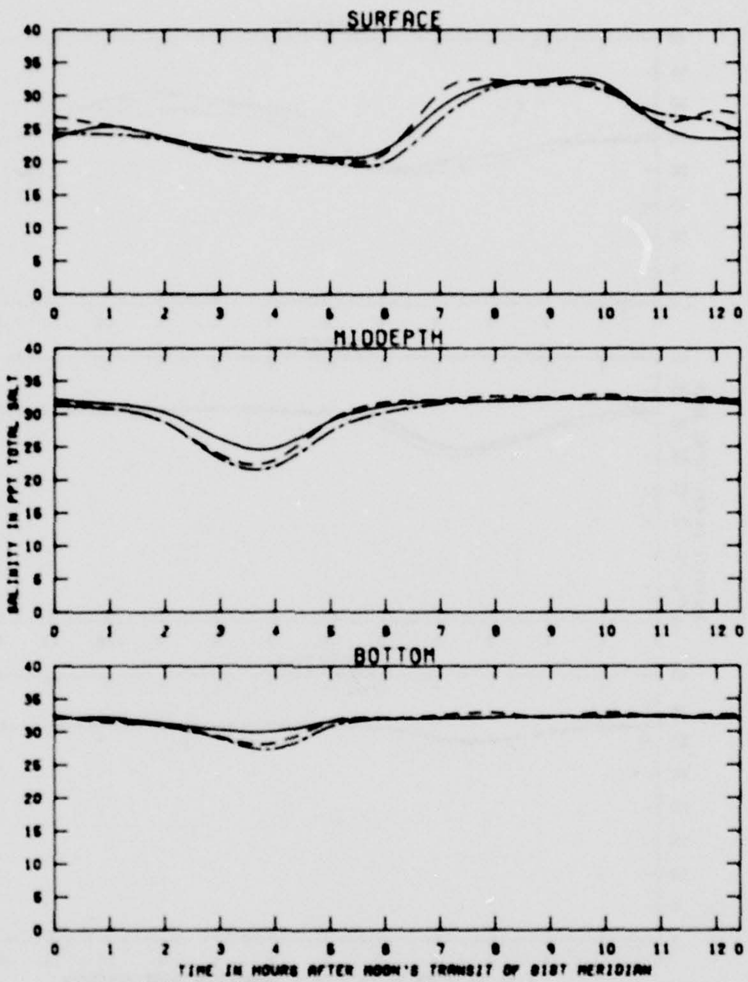
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

BASE ———
PLAN 4B – – –
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
YA

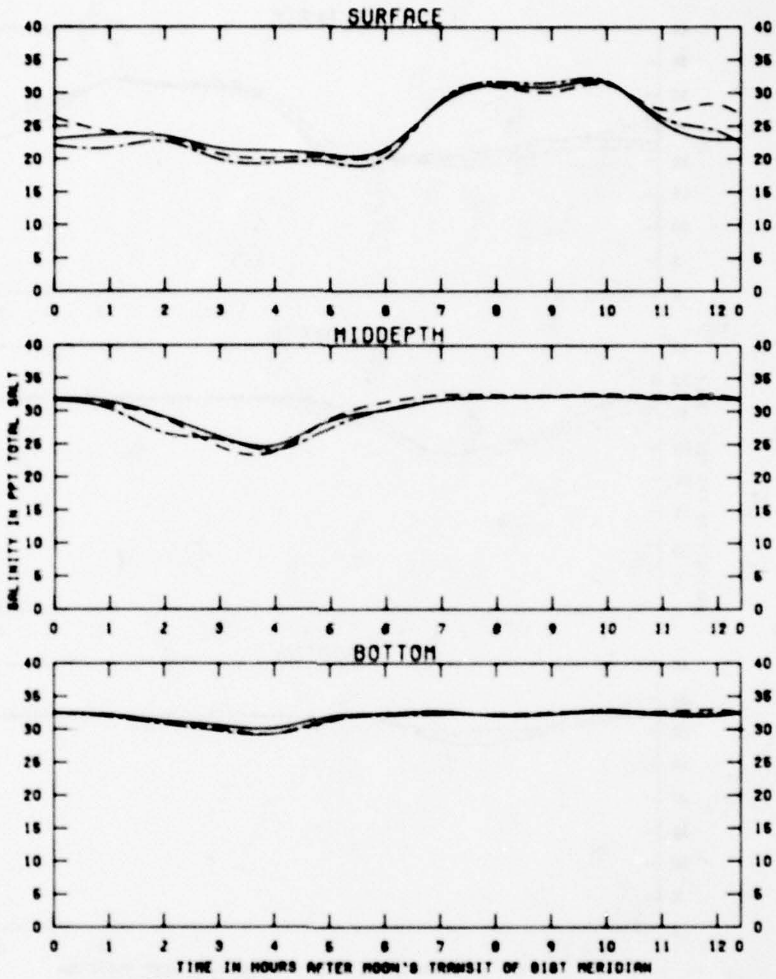


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS

LEGEND
BASE ———
PLAN 4B – – –
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
2A



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

LEGEND
BASE
PLAN 4B
PLAN 5B

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
2B

PLATE 125

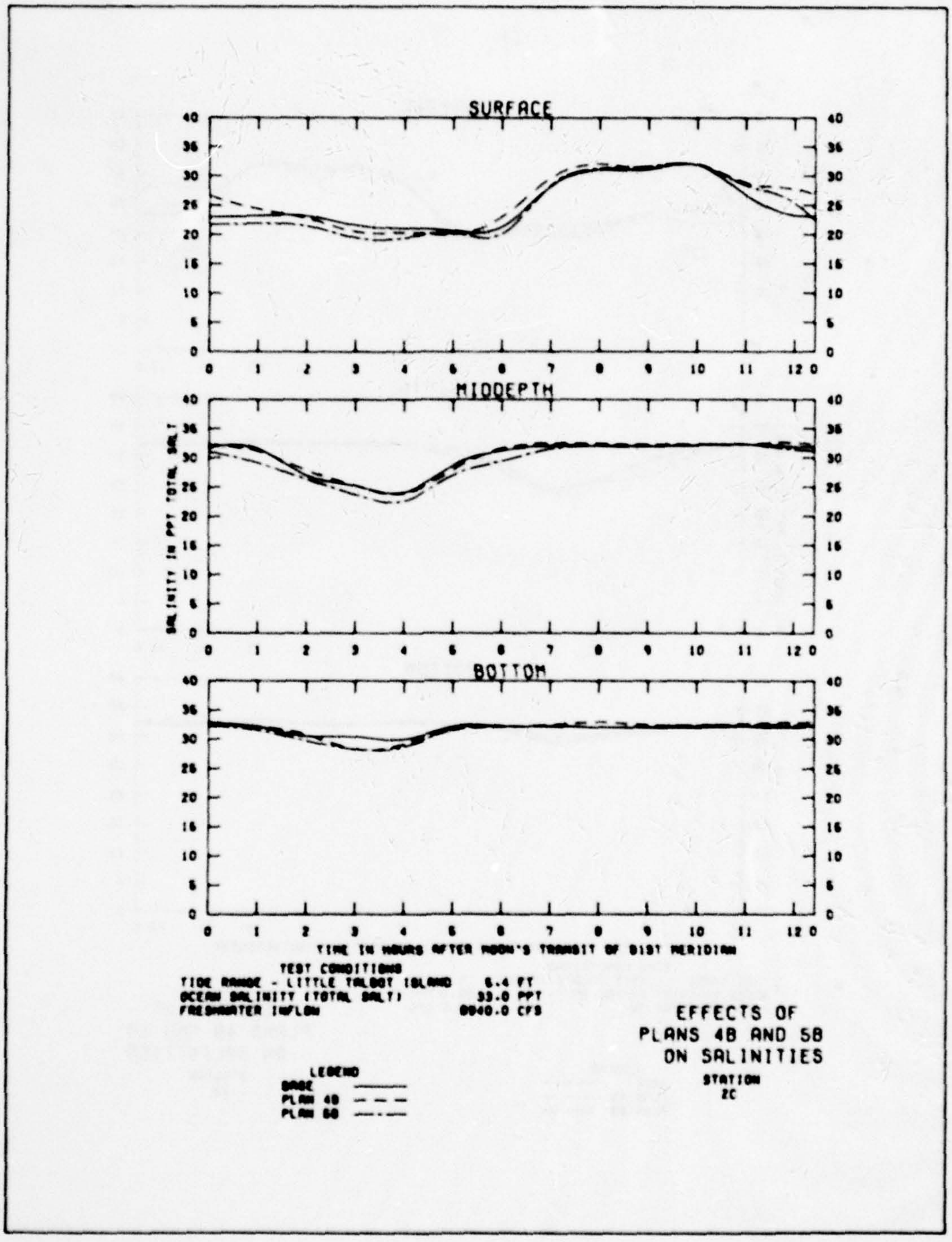
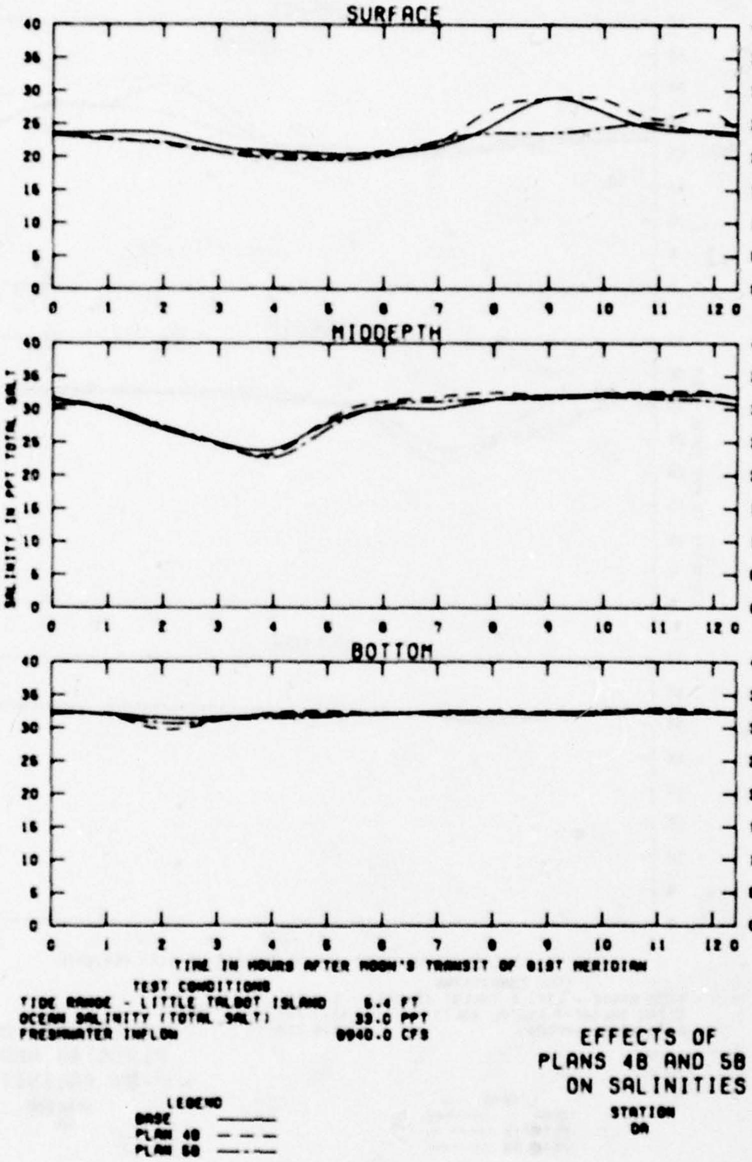
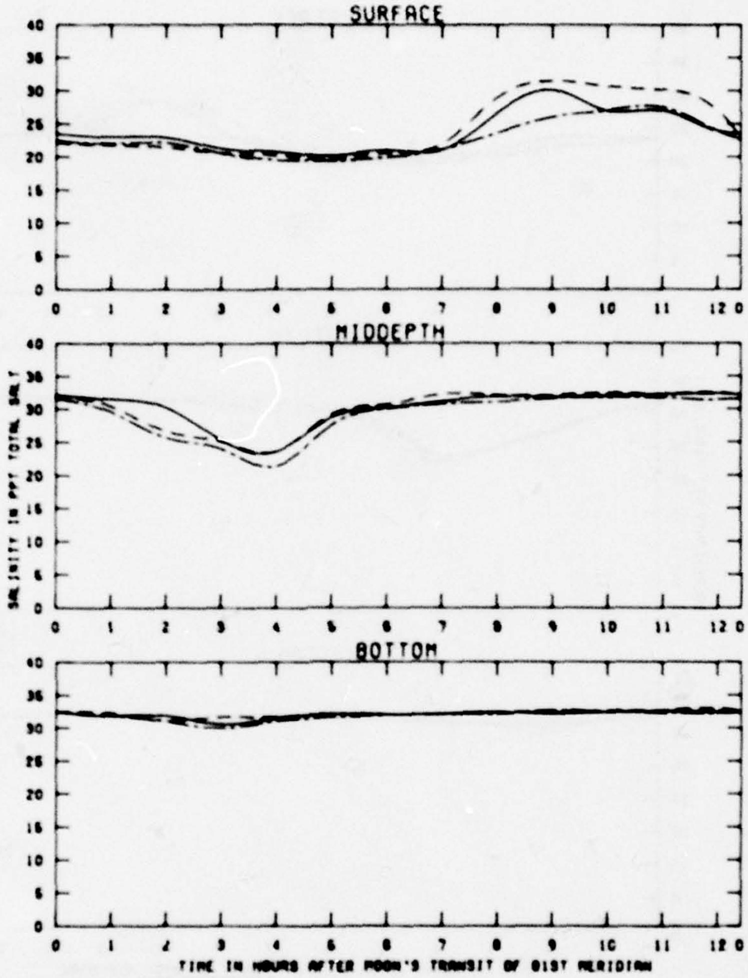

SURFACE
MIDDEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 6.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS
LEGEND
BASE
PLAN 4B
PLAN 5B
EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES
STATION
2C

PLATE 126



SURFACE
MIDDEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8940.0 CFS
LEGEND
BASE
PLAN 4B
PLAN 5B
EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES
STATION
DA



TEST CONDITIONS

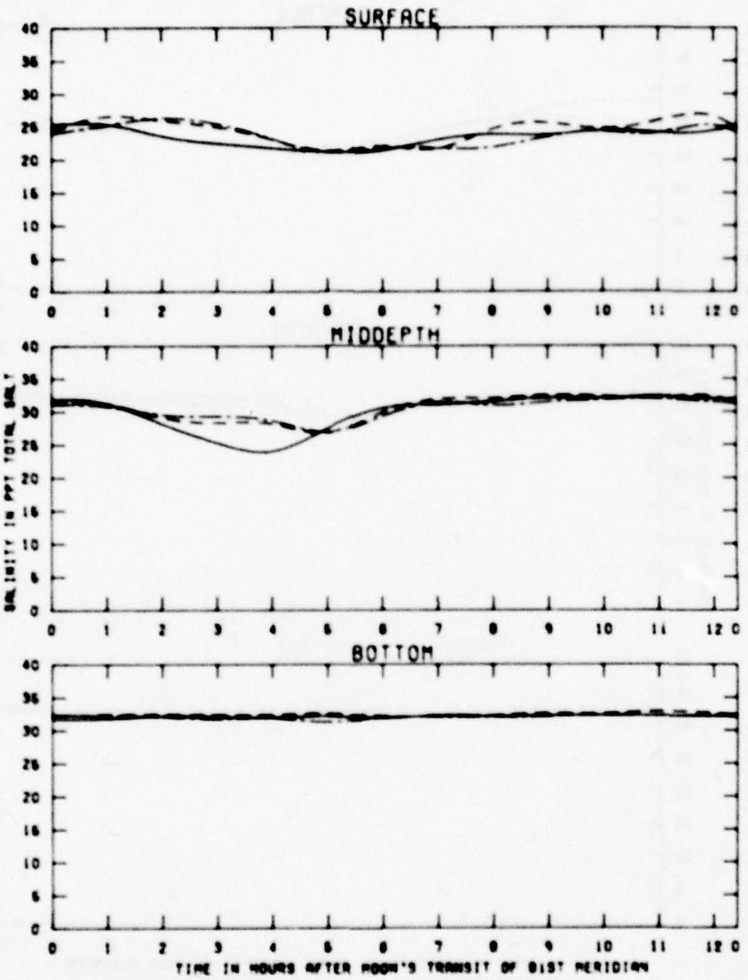
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND
BASE ———
PLAN 4B – – –
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
08

PLATE 128



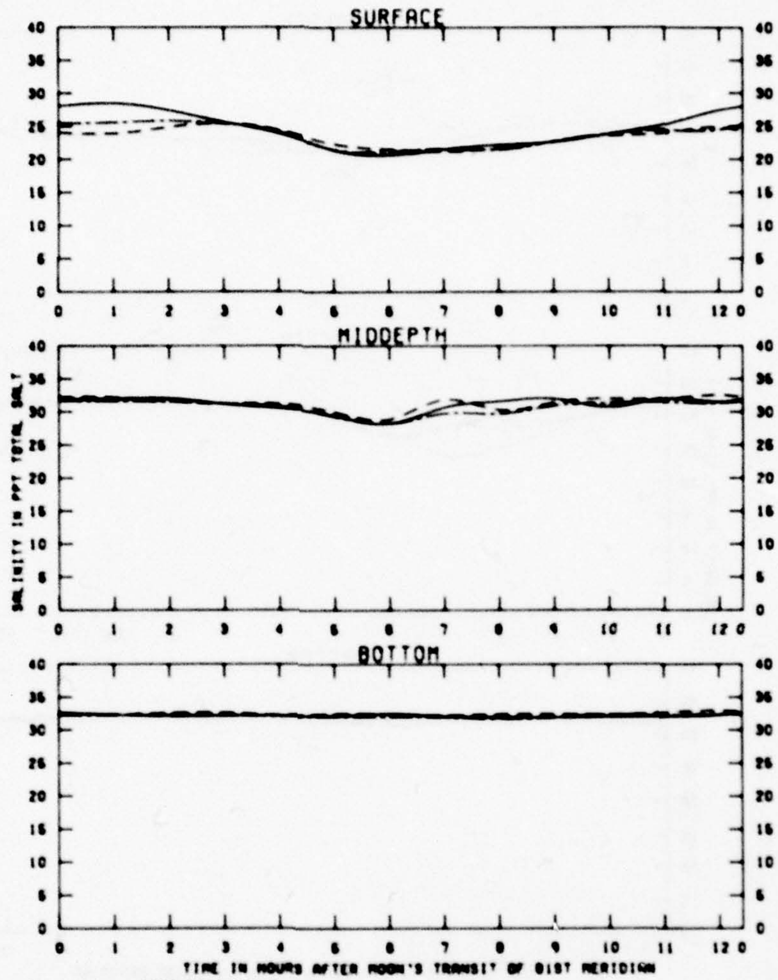
TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

LEGEND
BASE
PLAN 4B
PLAN 5B

STATION
DAA



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

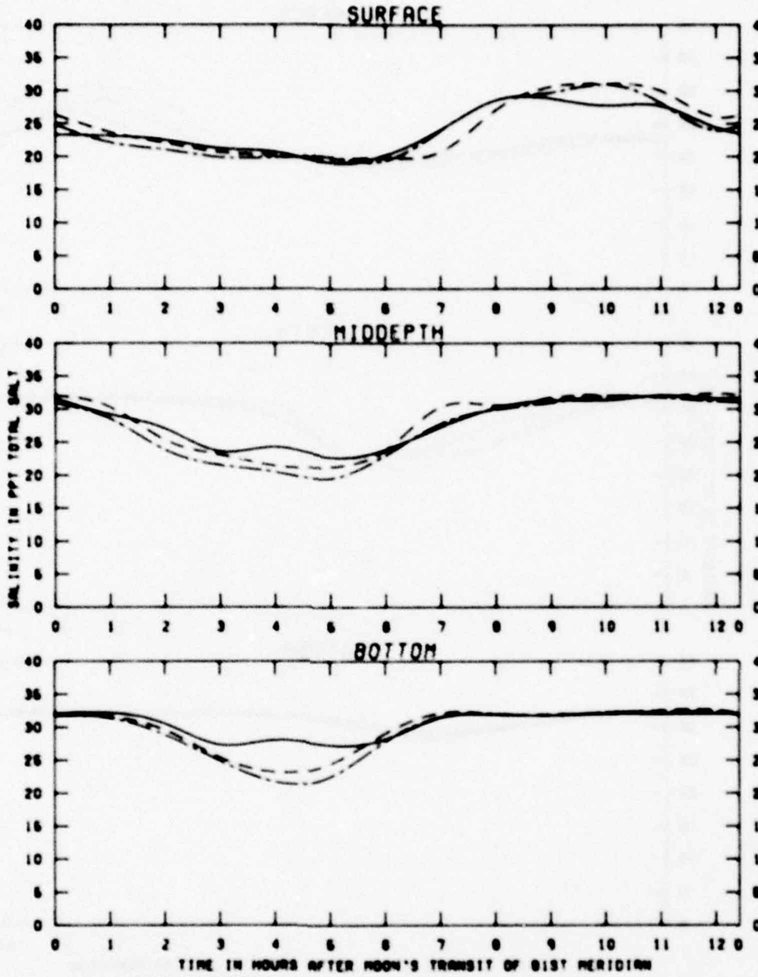
LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
DBA

PLATE 130



TEST CONDITIONS

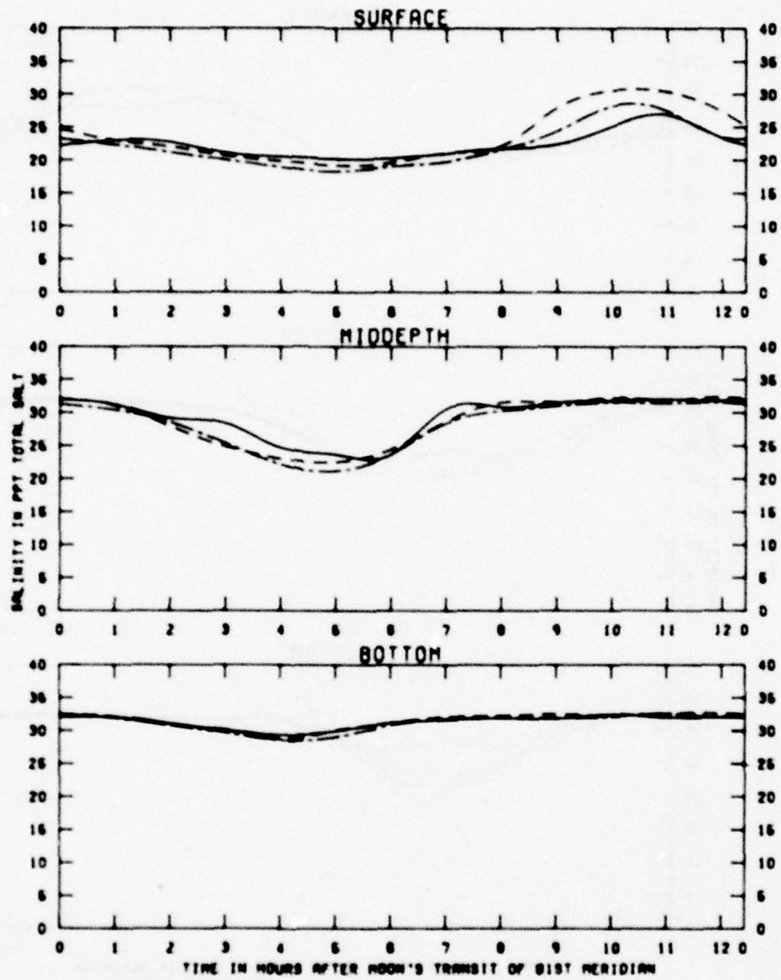
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

BASE ———
PLAN 4B – – –
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
08B



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

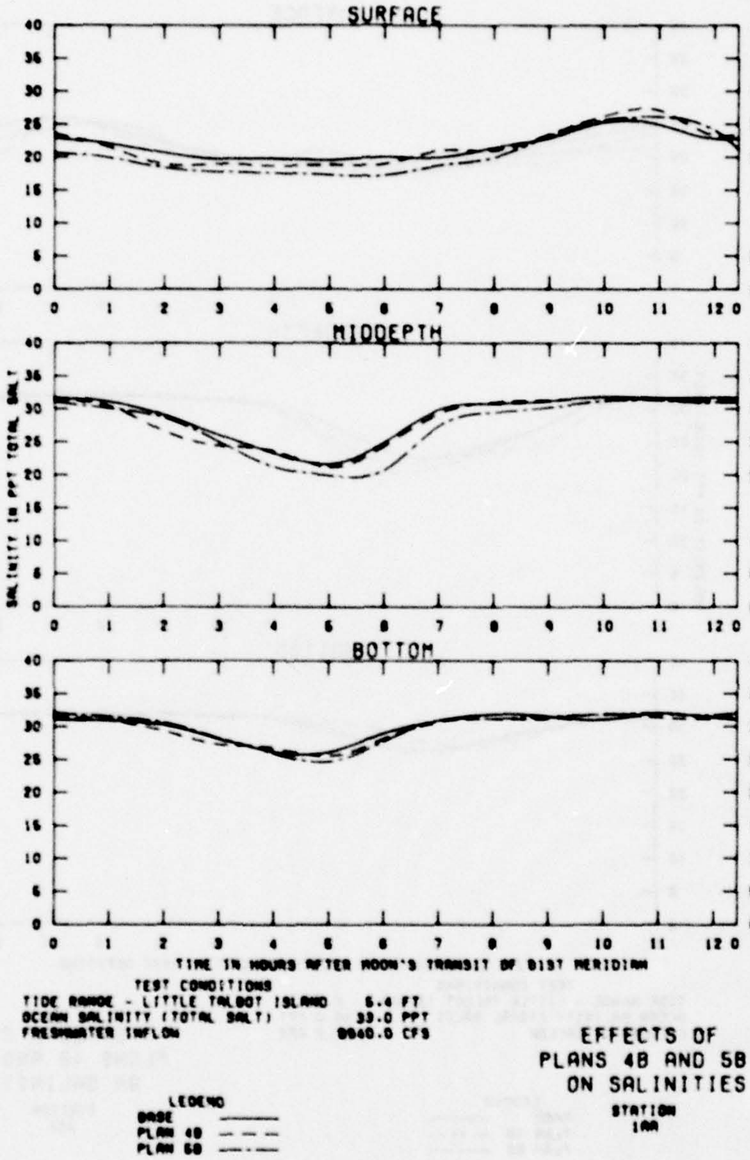
EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

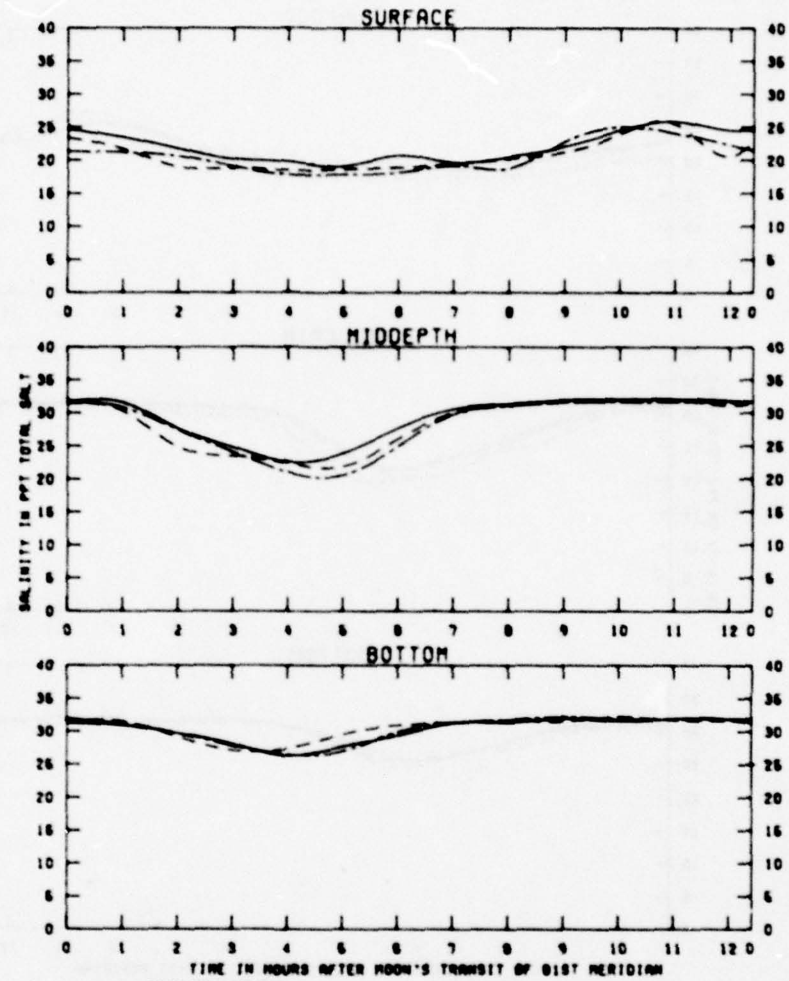
STATION
DBC

PLATE 132



EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

PLATE 133



TEST CONDITIONS

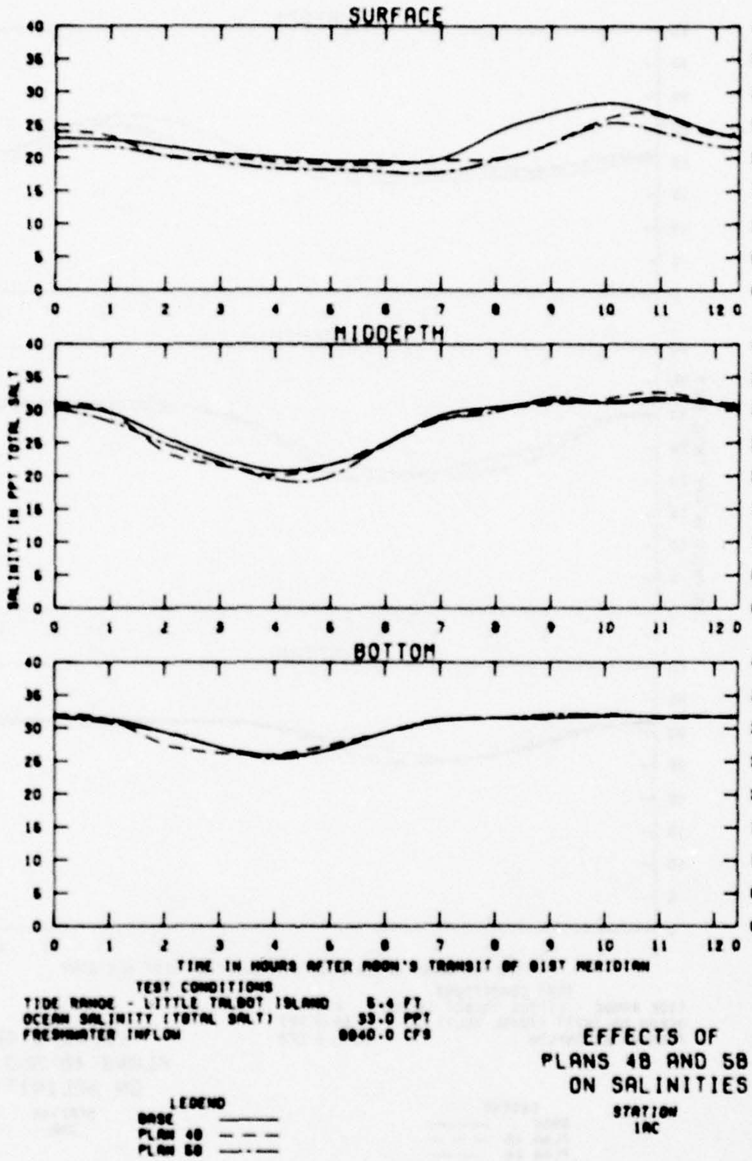
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

LEGEND
BASE ———
PLAN 4B — — —
PLAN 5B —·—

STATION
1A0

PLATE 134



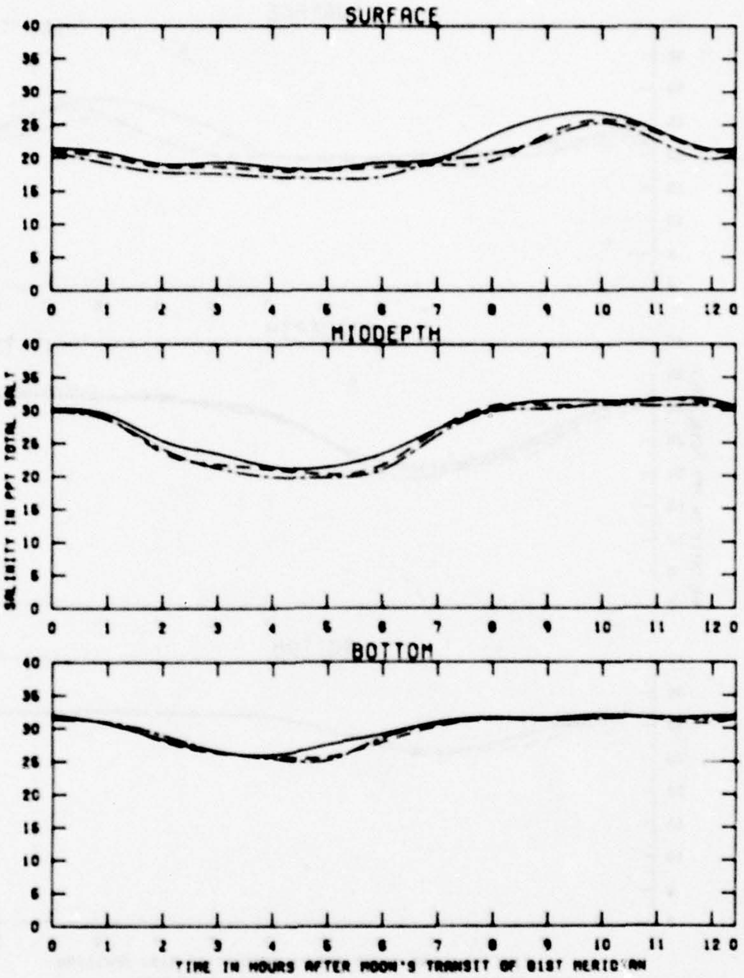
TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
1AC

PLATE 135



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4	FT
OCEAN SALINITY (TOTAL SALT)	33.0	PPT
FRESHWATER INFLOW	8940.0	CFS

LEGEND

BASE ————

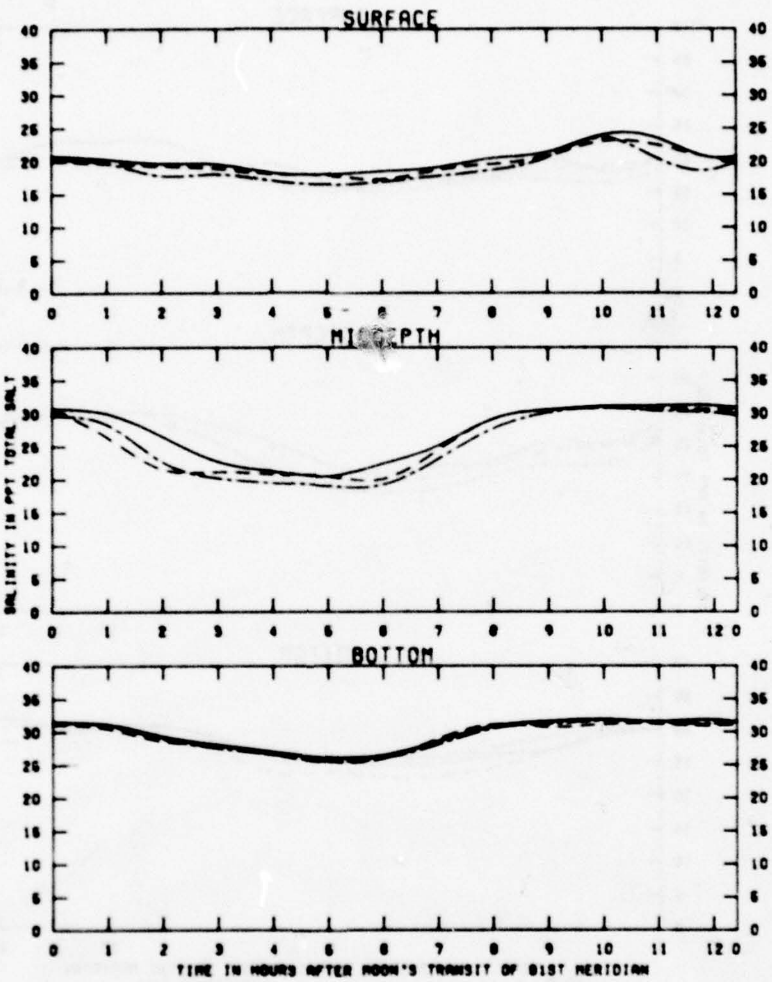
PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
2AA

PLATE 136



TEST CONDITIONS

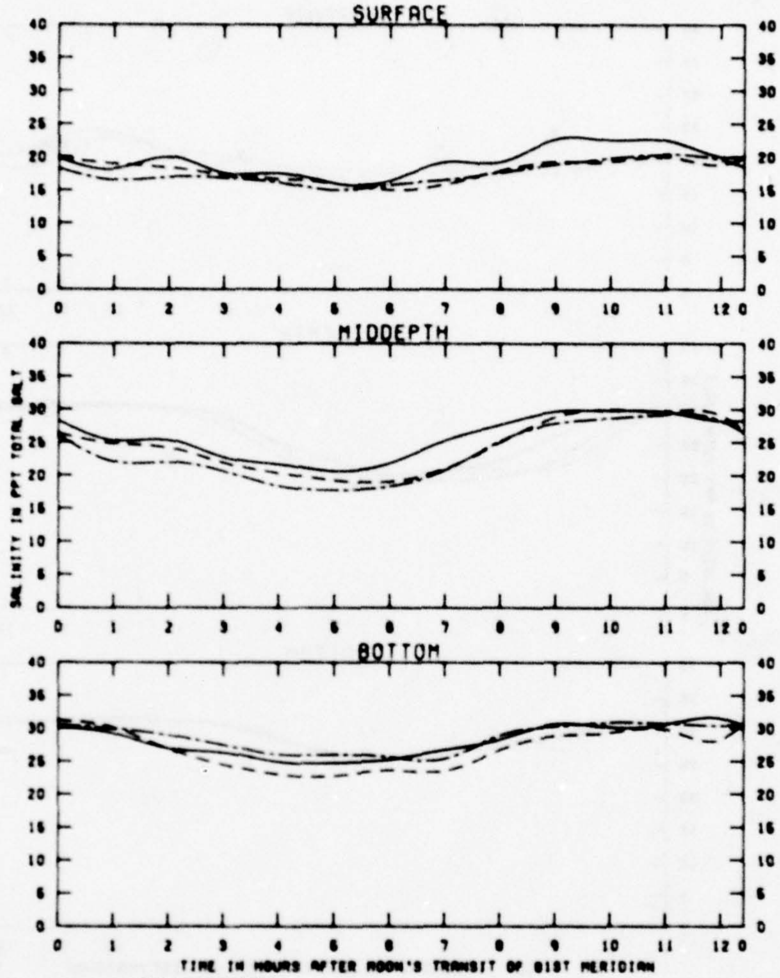
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
3A



TEST CONDITIONS

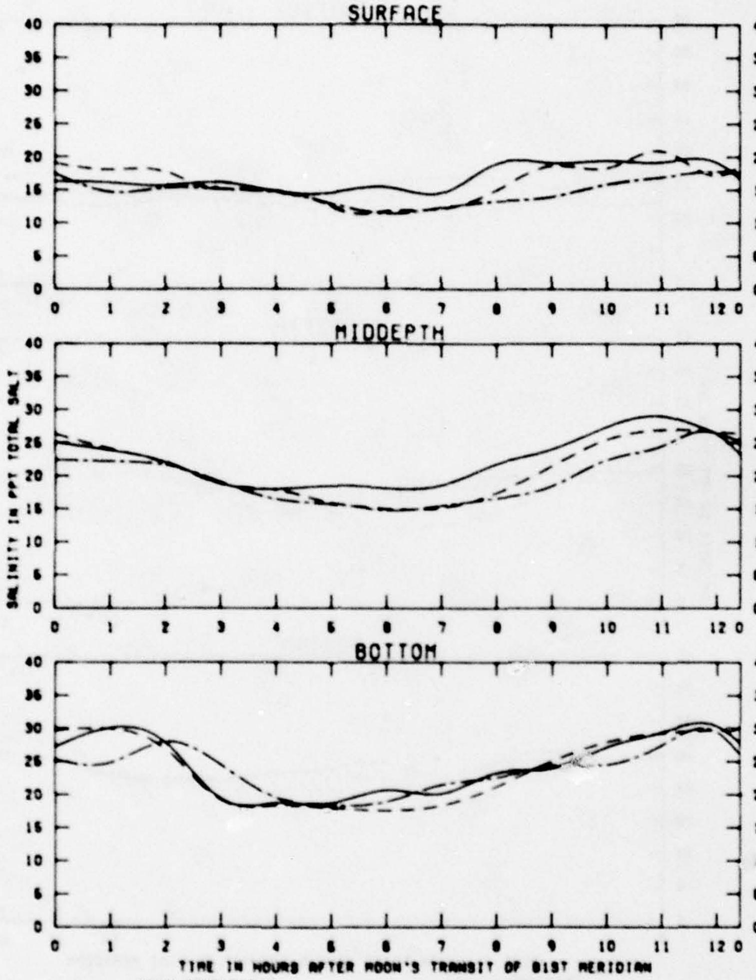
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND
BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
5A

PLATE 138



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

LEGEND

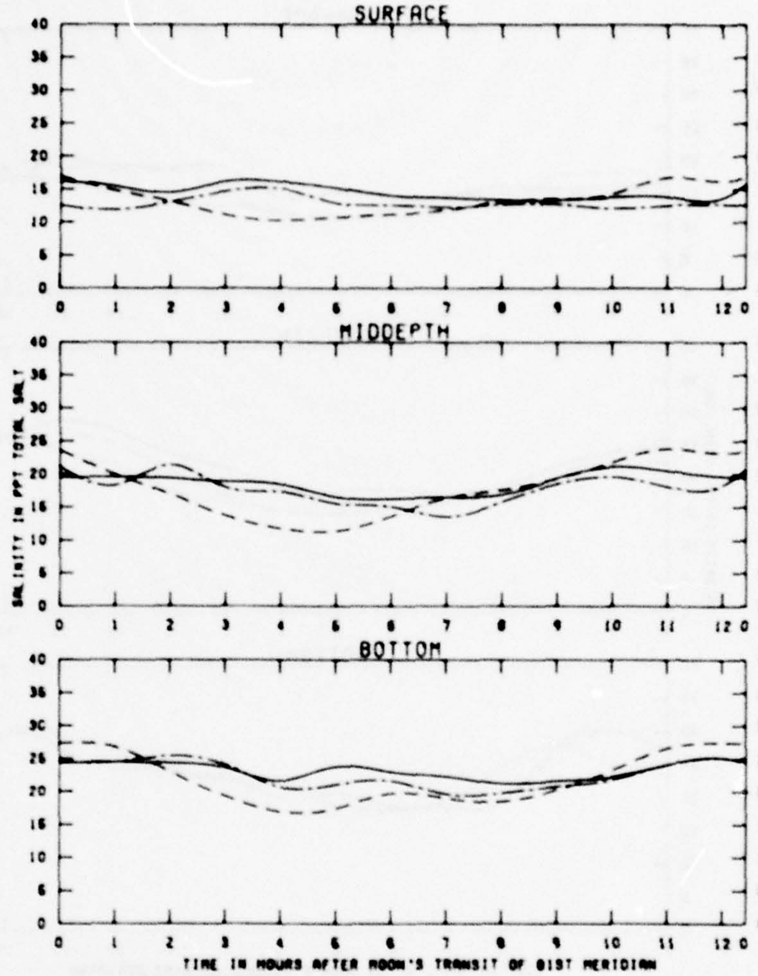
BASE ———

PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
76



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8940.0 CFS

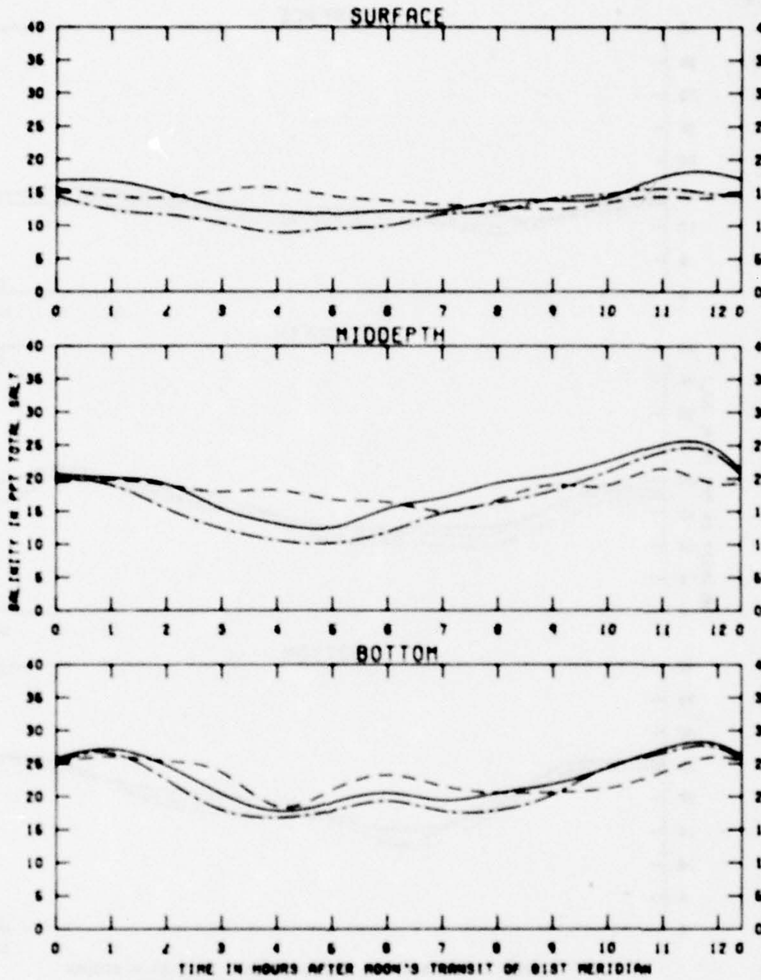
LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
9AB

PLATE 140



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———

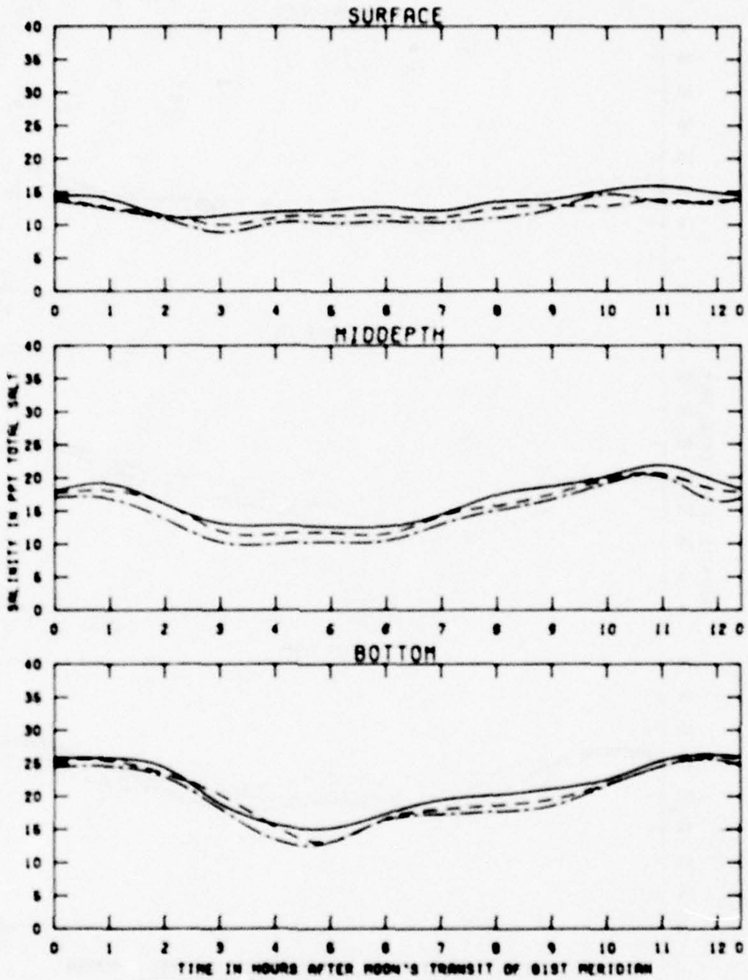
PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
90

PLATE 141



TEST CONDITIONS

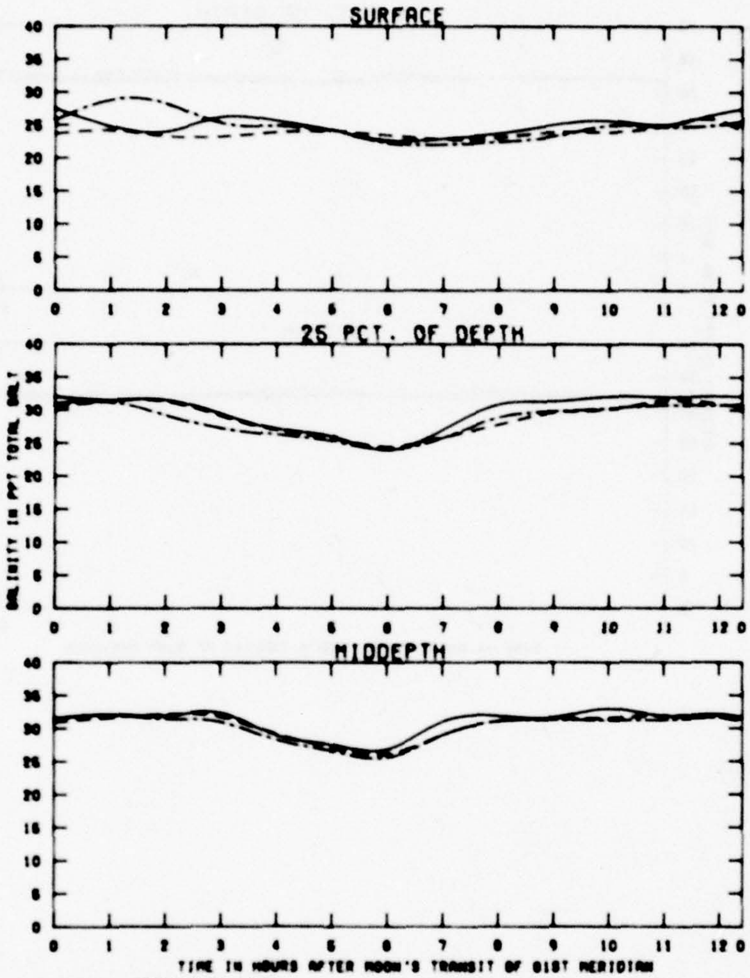
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND
BASE
PLAN 4B
PLAN 5B

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
10A

PLATE 142



TEST CONDITIONS

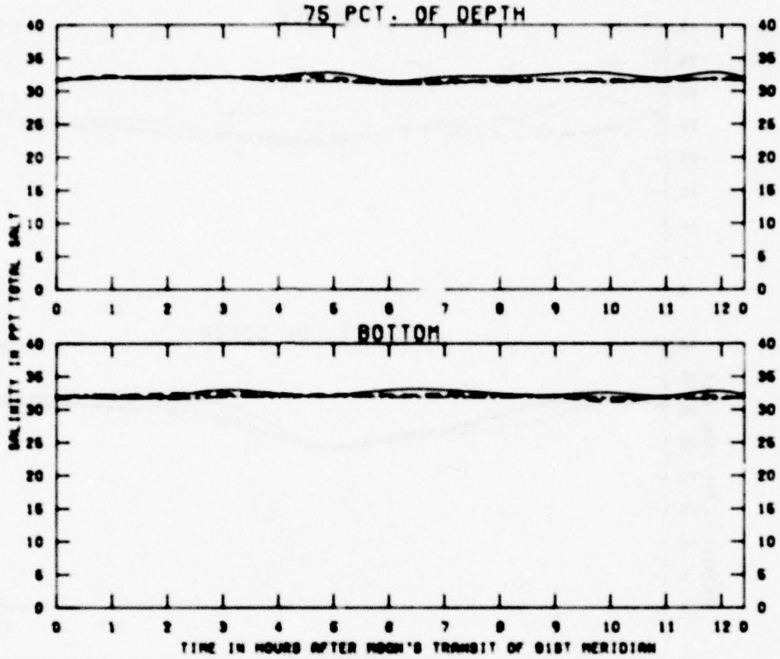
TIDE RANGE - LITTLE TALBOT ISLAND	5.4	FT
OCEAN SALINITY (TOTAL SALT)	33.0	PPT
FRESHWATER INFLOW	8040.0	CFS

LEGEND

- BASE ————
- PLAN 4B — — —
- PLAN 5B —·—

EFFECTS OF PLANS 4B AND 5B ON SALINITIES

STATION
MDA
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	6.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ————

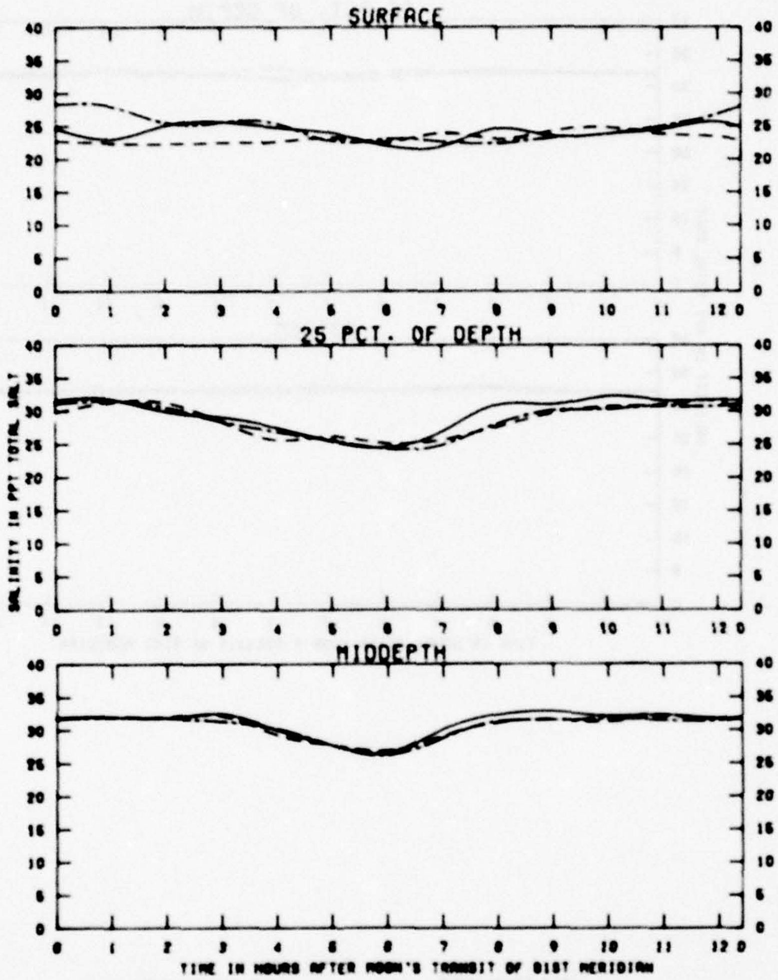
PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MDA
75% DEPTH AND BOTTOM

PLATE 144



TEST CONDITIONS

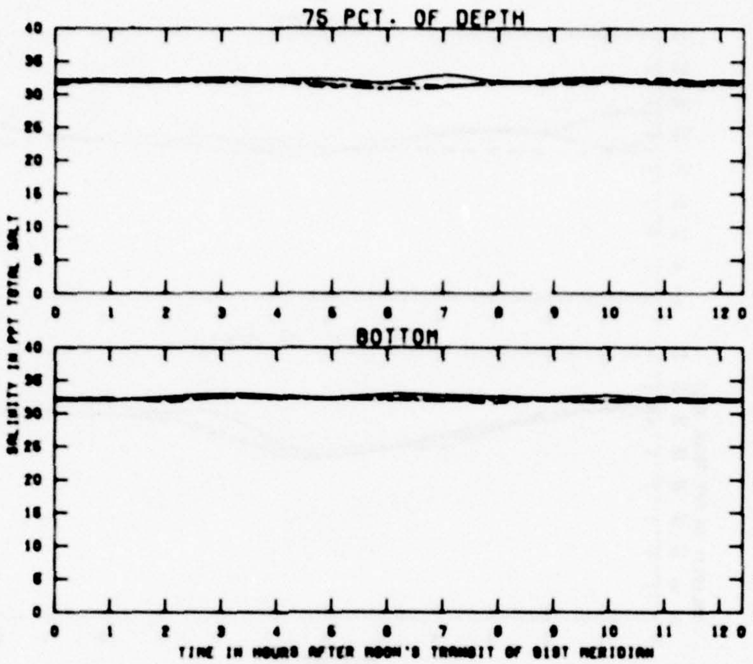
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———
PLAN 4B – – –
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
R00
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———

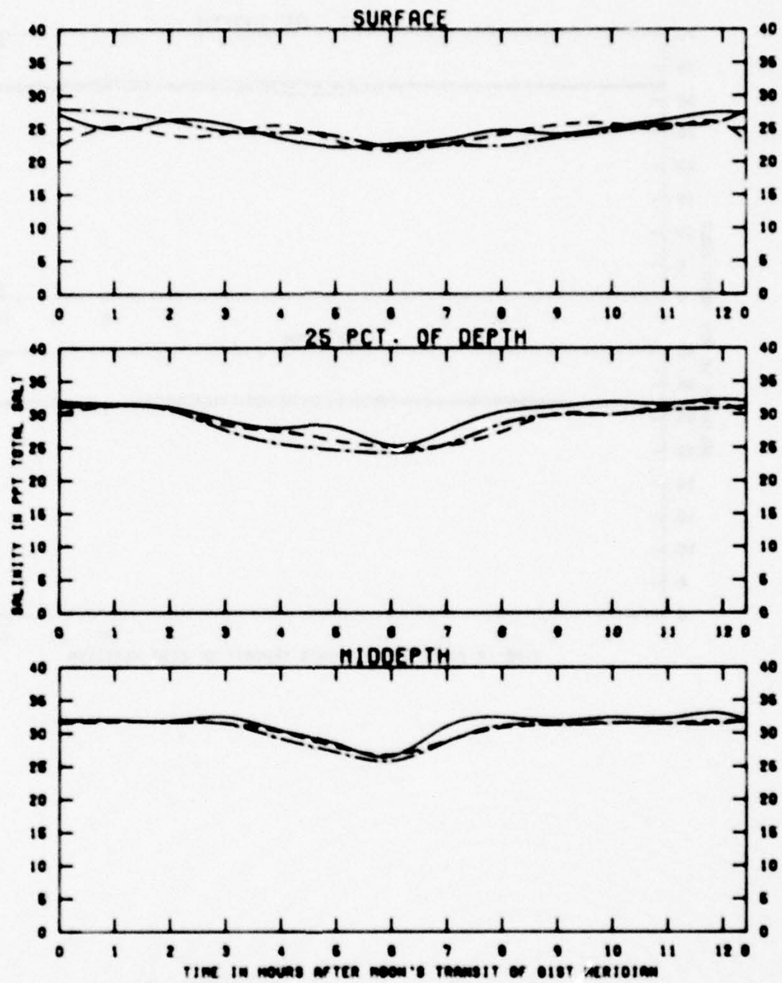
PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
M80
75% DEPTH AND BOTTOM

PLATE 146



TEST CONDITIONS

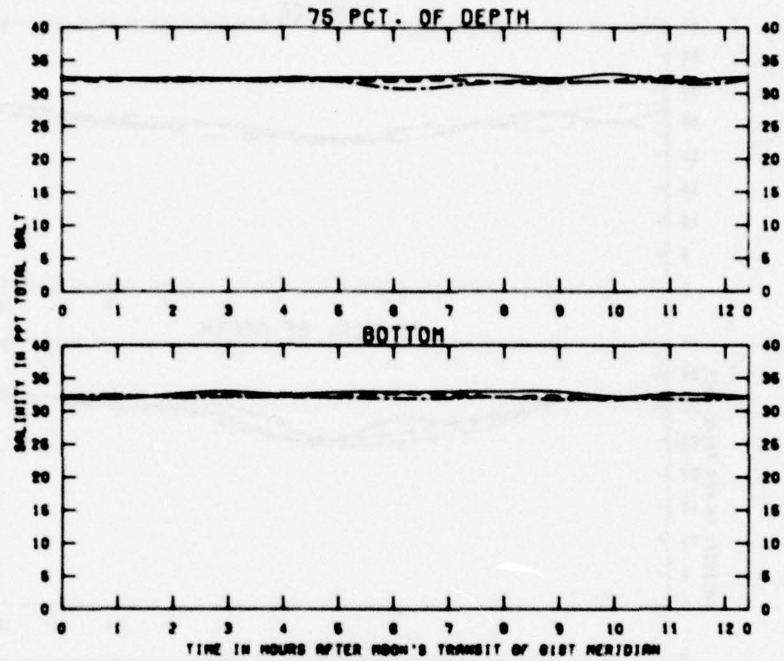
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

- BASE ————
- PLAN 4B – – –
- PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MDC
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

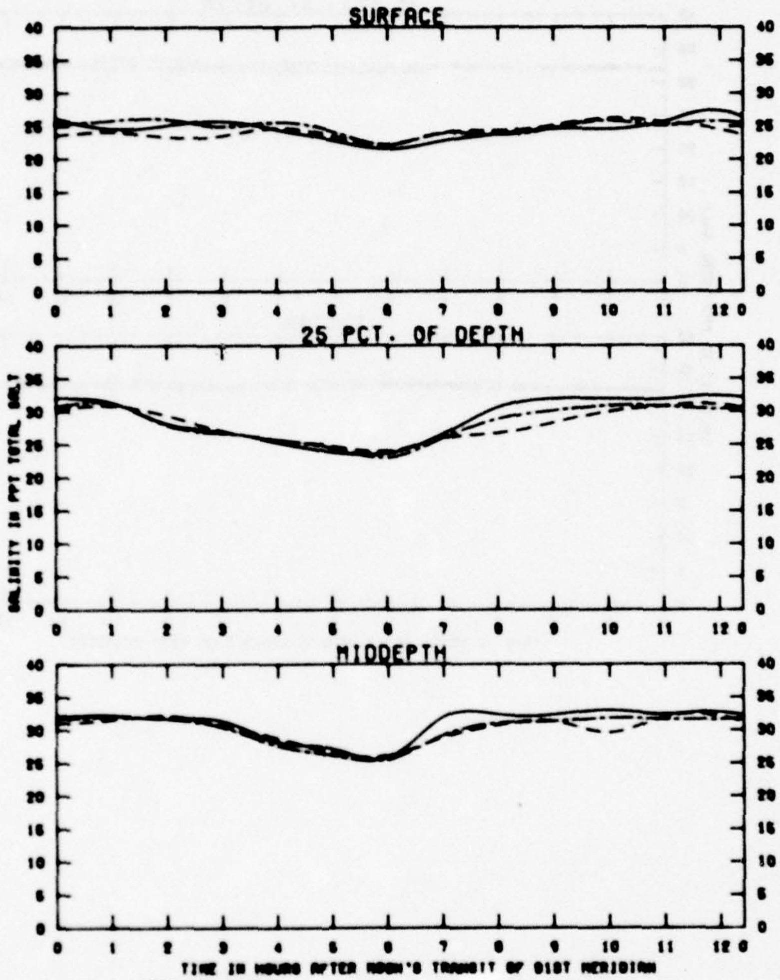
TIDE RANGE - LITTLE TALBOT ISLAND	5.4	FT
OCEAN SALINITY (TOTAL SALT)	33.0	PPT
FRESHWATER INFLOW	8040.0	CFS

LEGEND

BASE
PLAN 4B
PLAN 5B

EFFECTS OF PLANS 4B AND 5B ON SALINITIES

STATION
MBC
75% DEPTH AND BOTTOM



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	35.0 PPT
FRESHWATER INFLOW	6040.0 CFS

LEGEND

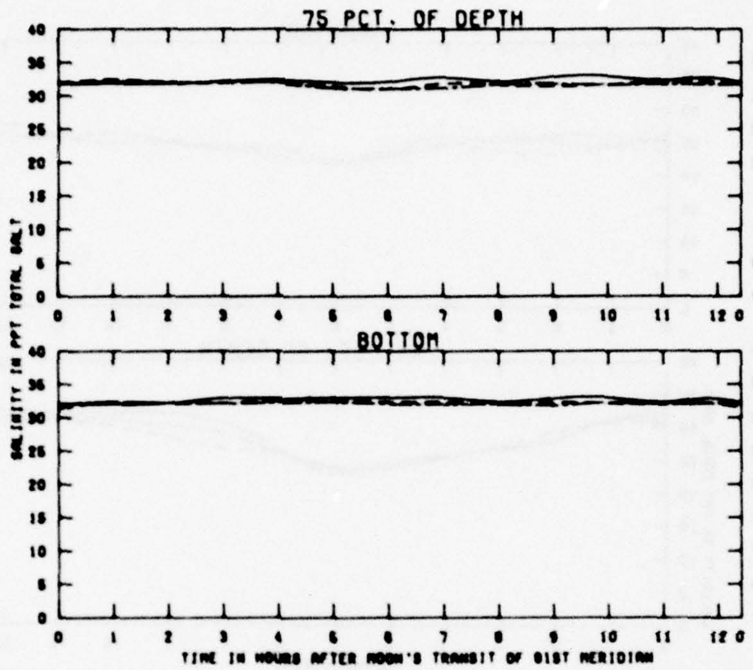
BASE ———

PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
[illegible]
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

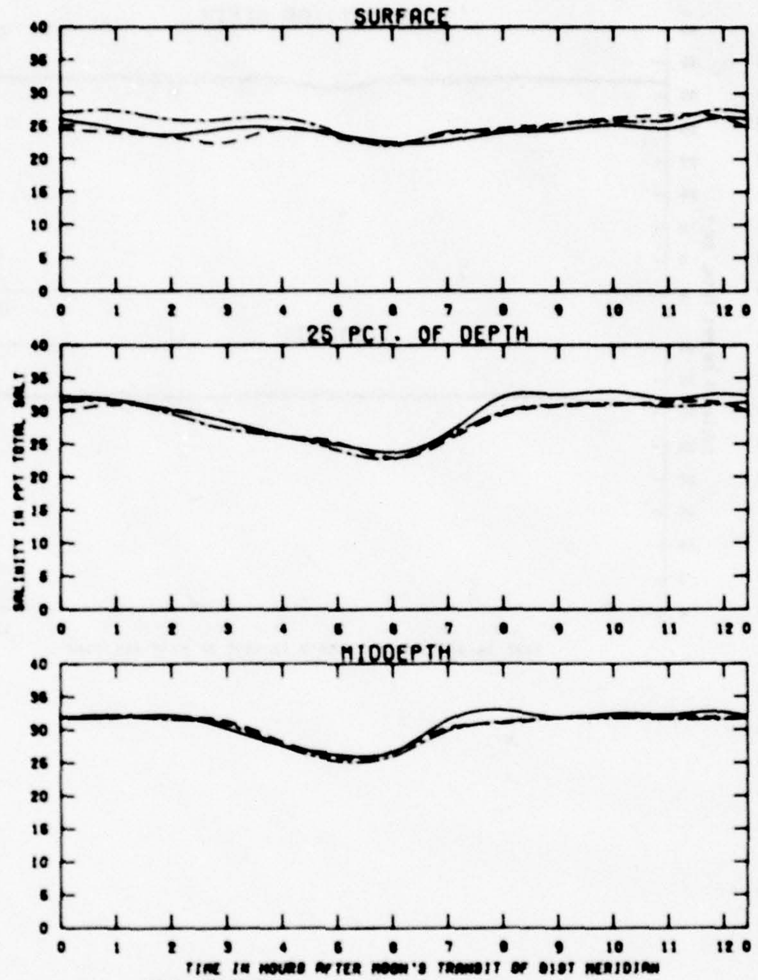
LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MBO
75% DEPTH AND BOTTOM

PLATE 150

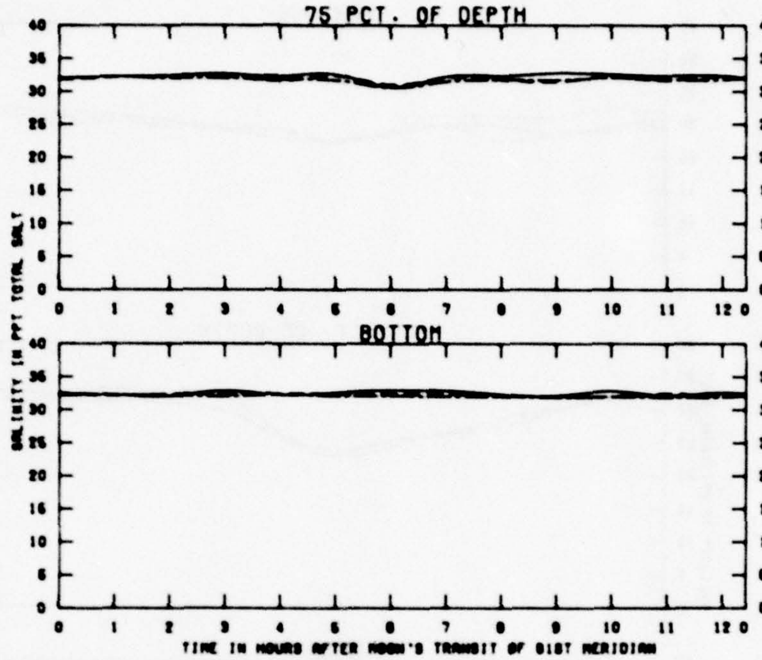


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 9840.0 CFS

LEGEND
BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
NBE
SURFACE, 25% DEPTH, AND MIDDEPTH



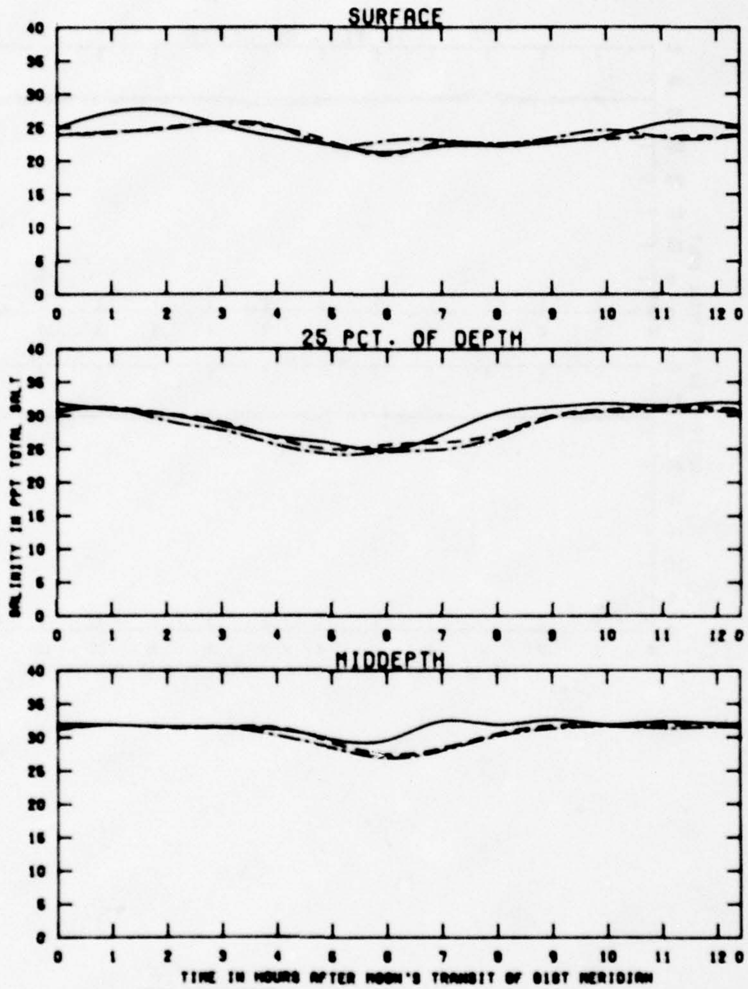
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MDE
75% DEPTH AND BOTTOM

PLATE 152



TEST CONDITIONS

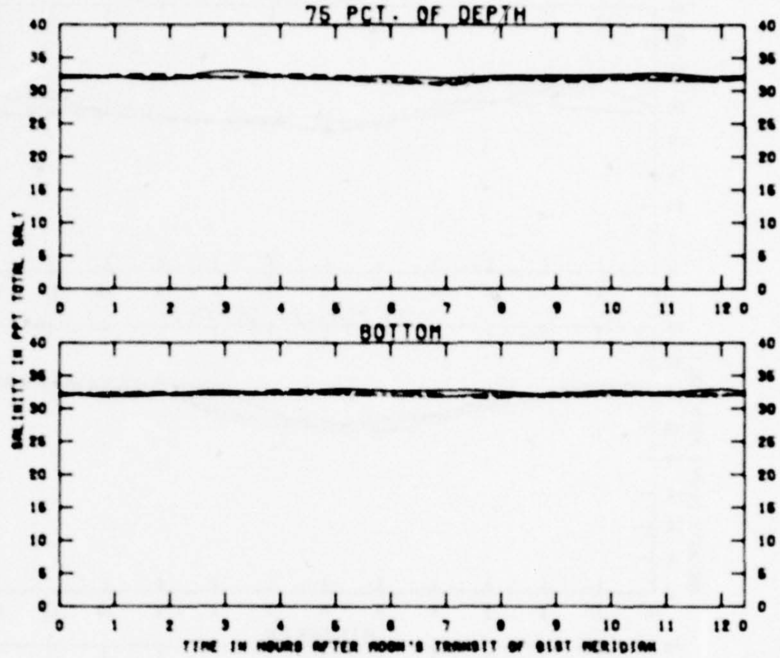
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MDF
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

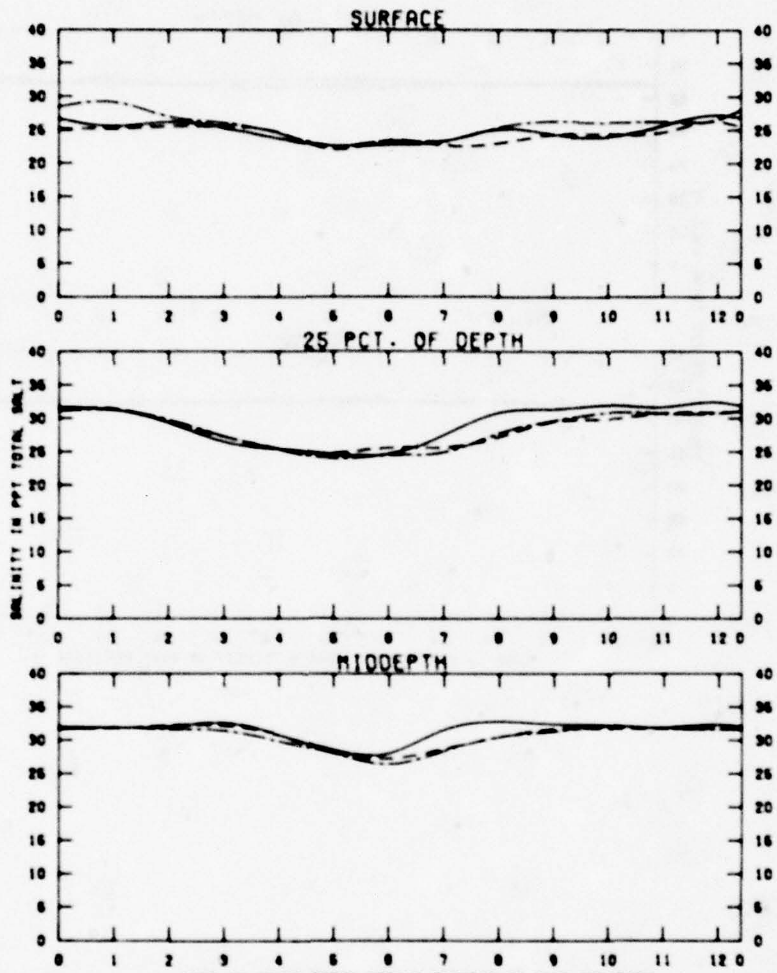
LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MDF
75% DEPTH AND BOTTOM

PLATE 154

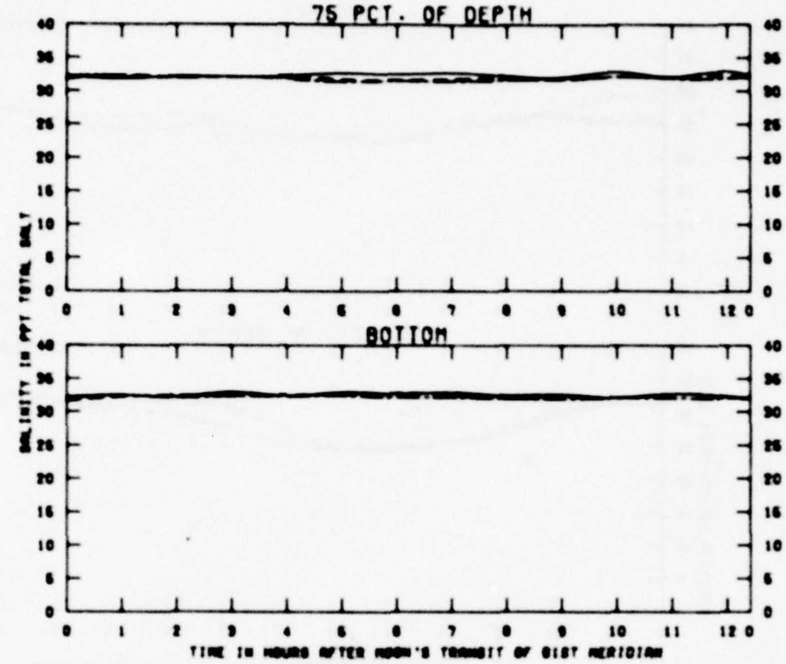


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF PLANS 4B AND 5B ON SALINITIES

STATION
[illegible]
SURFACE, 25% DEPTH, AND MIDDEPTH



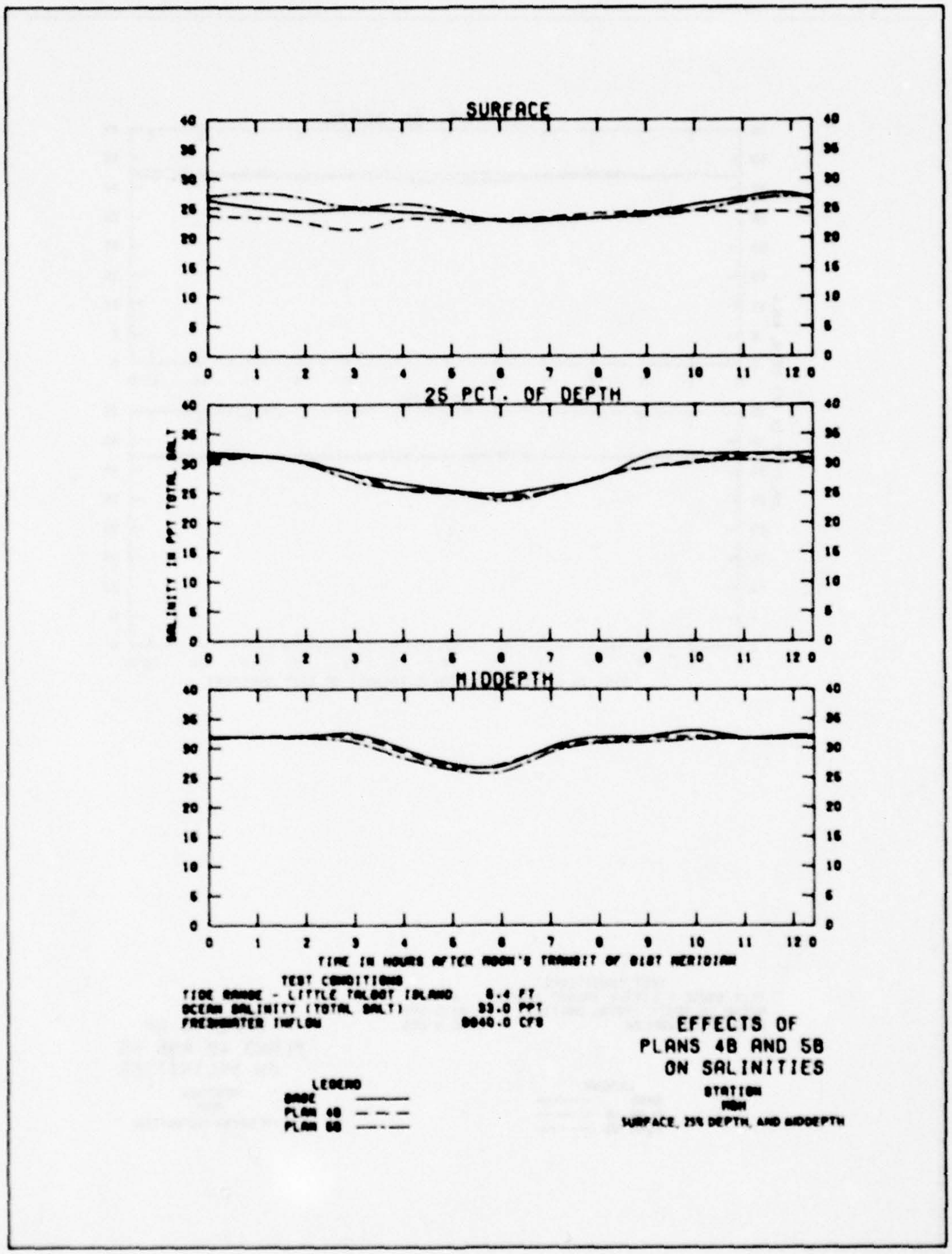
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 6.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW CFS

LEGEND
BASE
PLAN 4B
PLAN 5B

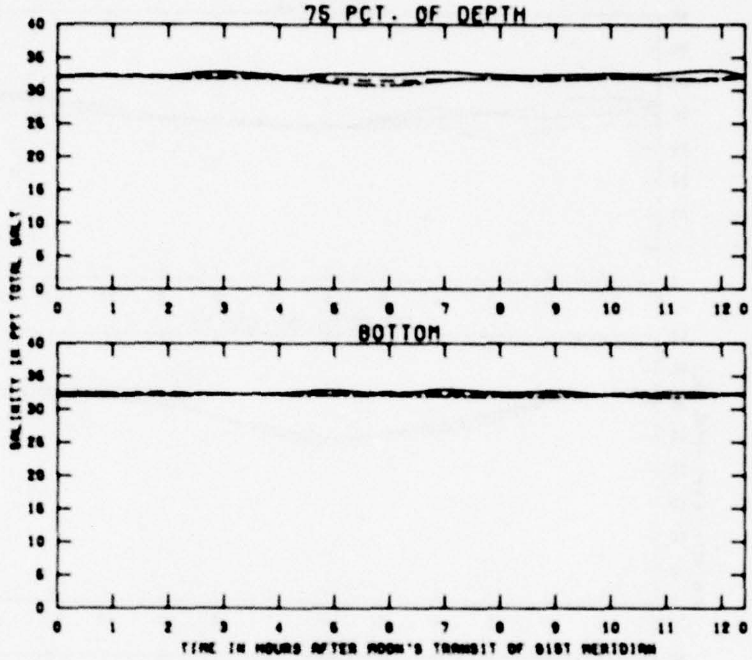
EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION

75% DEPTH AND BOTTOM



EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

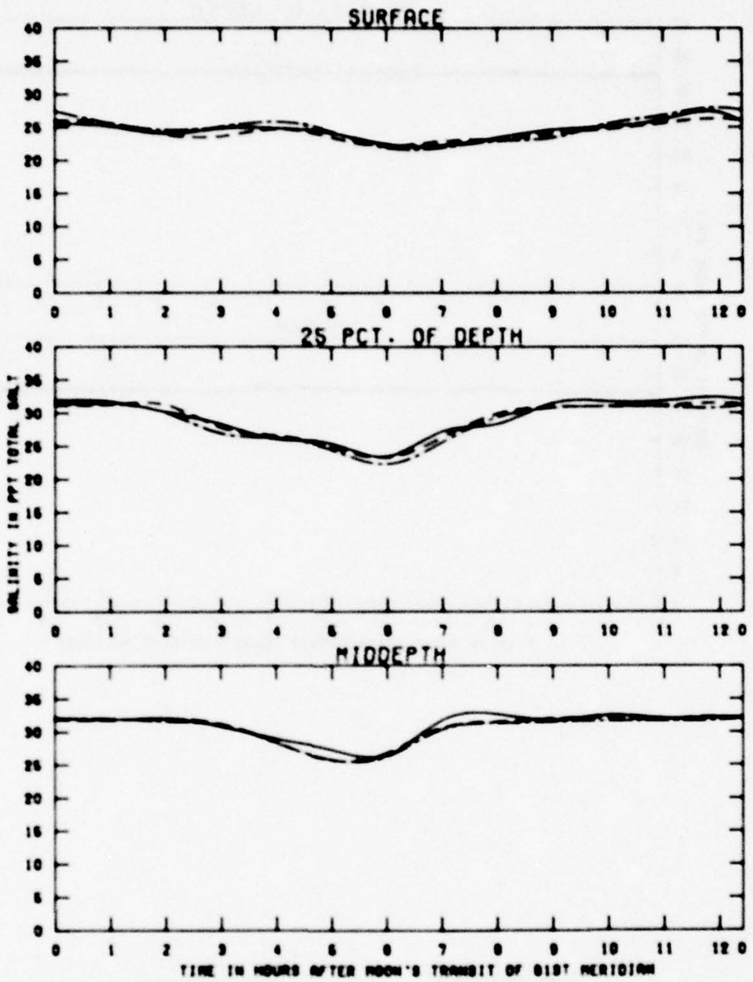


TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8840.0 CFS

LEGEND
BASE
PLAN 4B
PLAN 5B

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES
STATION
RBM
75% DEPTH AND BOTTOM

PLATE 158



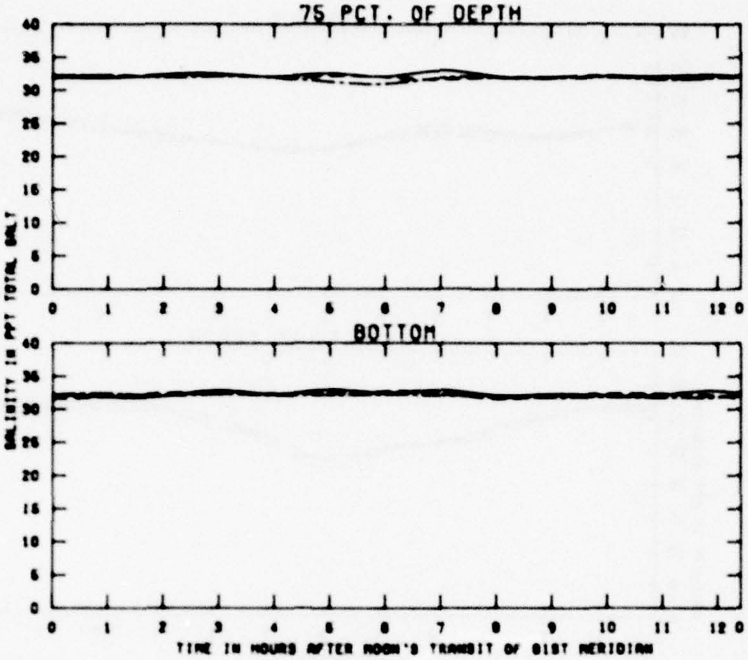
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW

LEGEND
BASE
PLAN 4B
PLAN 5B

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION

SURFACE, 25% DEPTH, AND MIDDEPTH



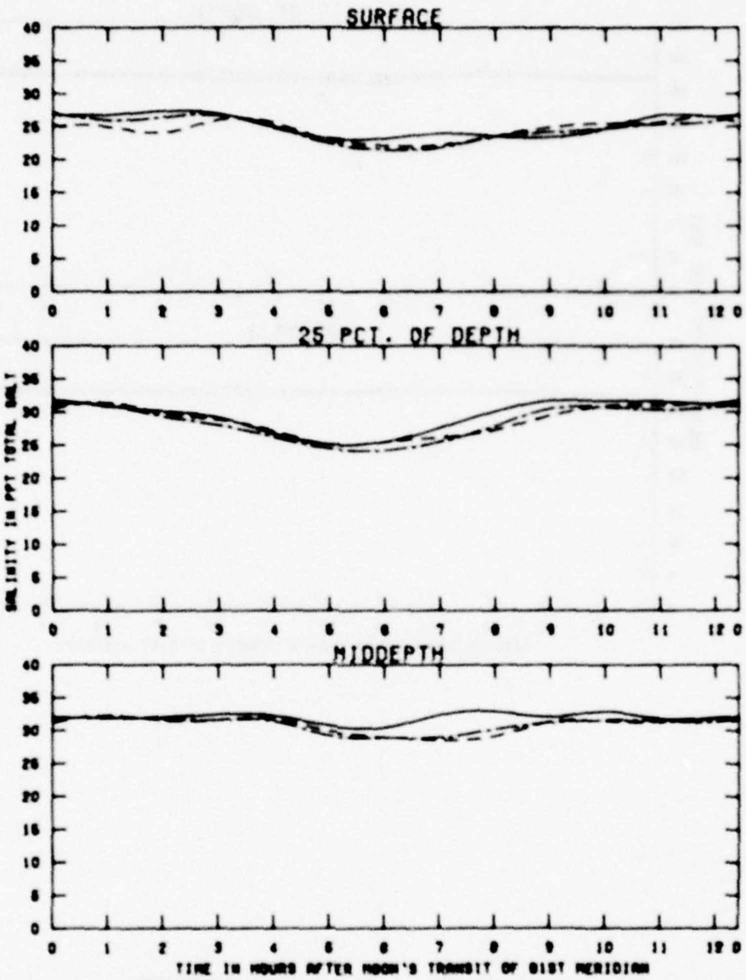
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

LEGEND
BASE ————
PLAN 4B — — —
PLAN 5B —-·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
ABJ
75% DEPTH AND BOTTOM

PLATE 160



TEST CONDITIONS

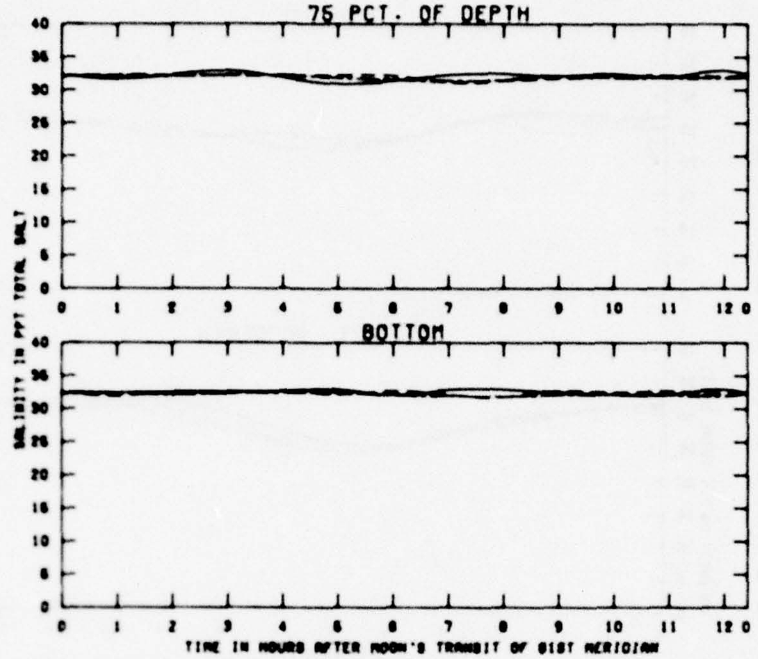
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND
BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
[illegible]
SURFACE, 25% DEPTH, AND MIDDEPTH

PLATE 161



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS

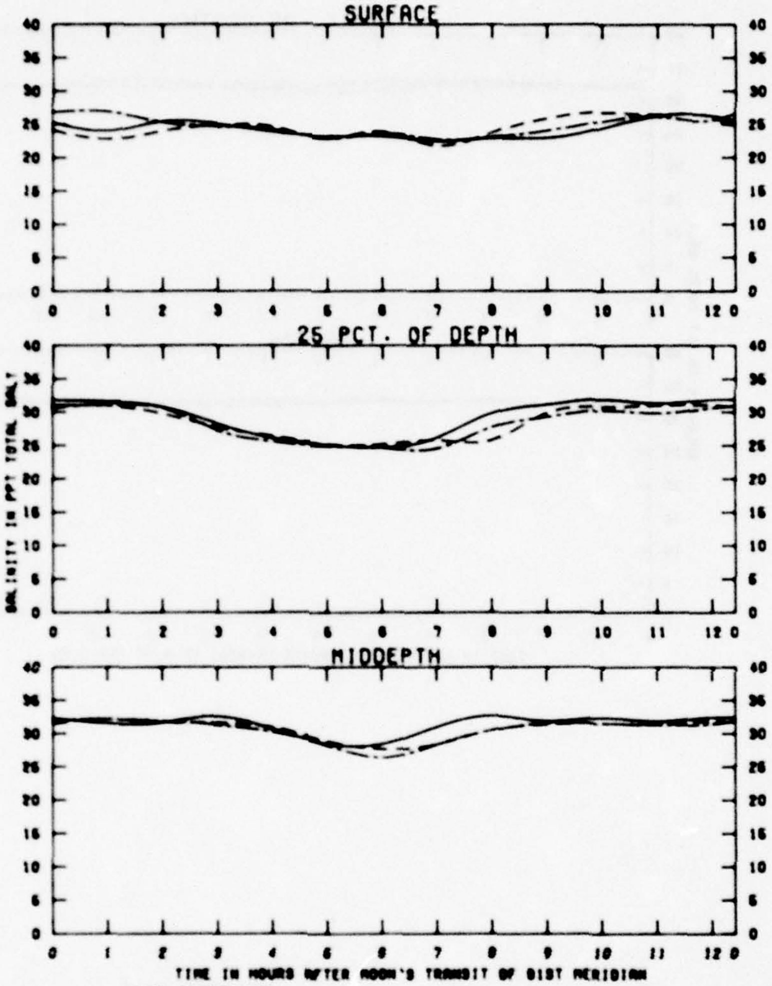
LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MDK
75% DEPTH AND BOTTOM

PLATE 162



TEST CONDITIONS

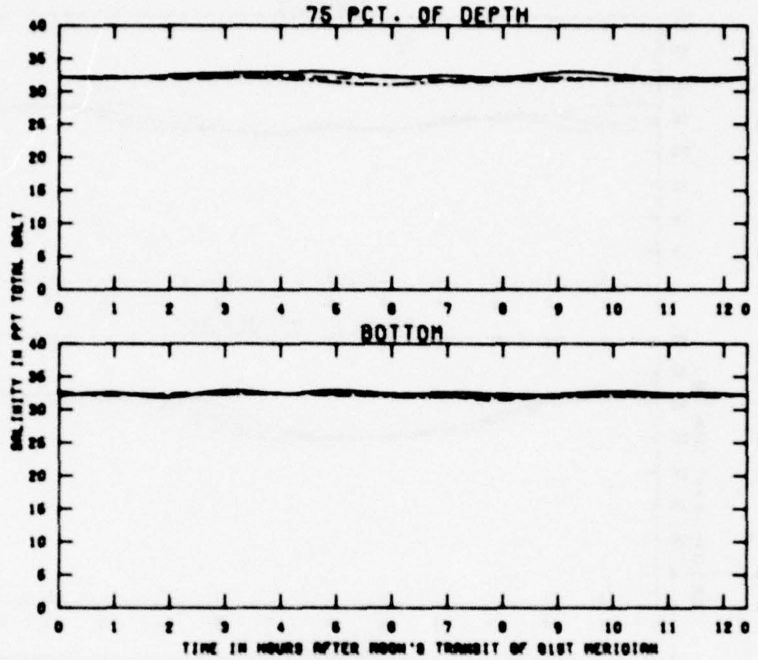
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE	———
PLAN 4B	— — —
PLAN 5B	—·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MDL
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

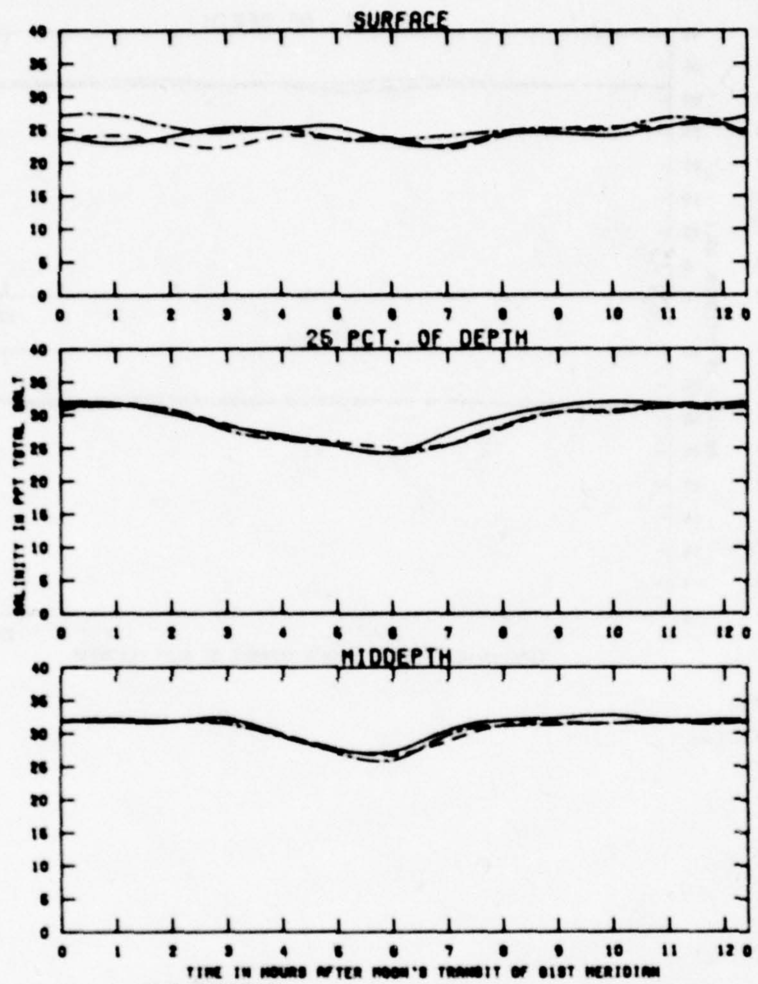
BASE ————

PLAN 4B — — —

PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MDL
75% DEPTH AND BOTTOM



TEST CONDITIONS

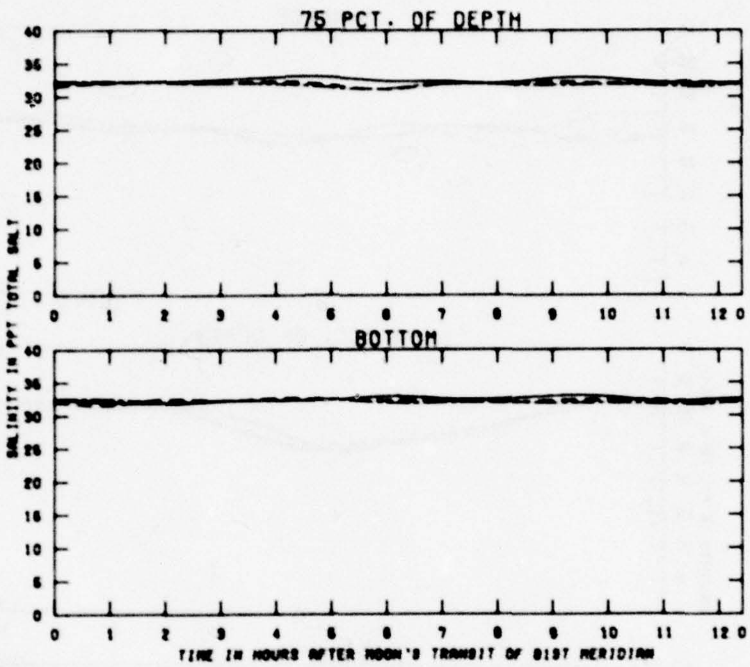
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE	———
PLAN 4B	— — —
PLAN 5B	—·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
MDR
SURFACE, 25% DEPTH, AND MIDDEPTH



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8840.0 CFS

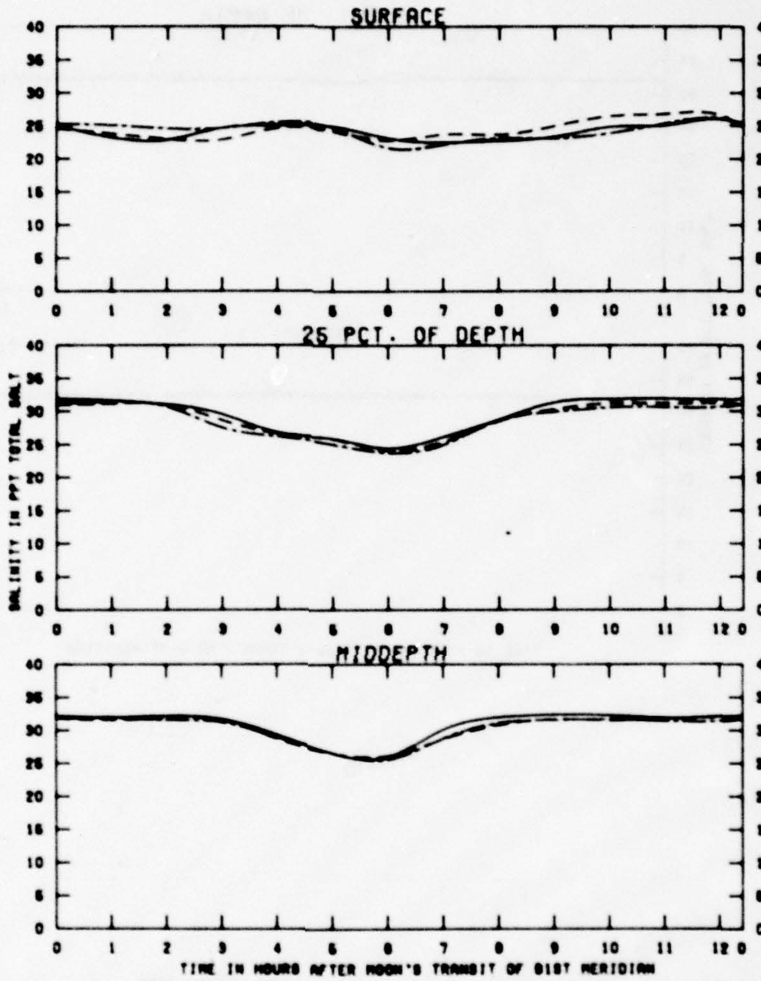
LEGEND

BASE ————
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
RDA
75% DEPTH AND BOTTOM

PLATE 166



TEST CONDITIONS

TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT
OCEAN SALINITY (TOTAL SALT)	33.0 PPT
FRESHWATER INFLOW	8040.0 CFS

LEGEND

BASE ———
PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF PLANS 4B AND 5B ON SALINITIES

STATION
[illegible]
SURFACE, 25% DEPTH, AND MIDDEPTH

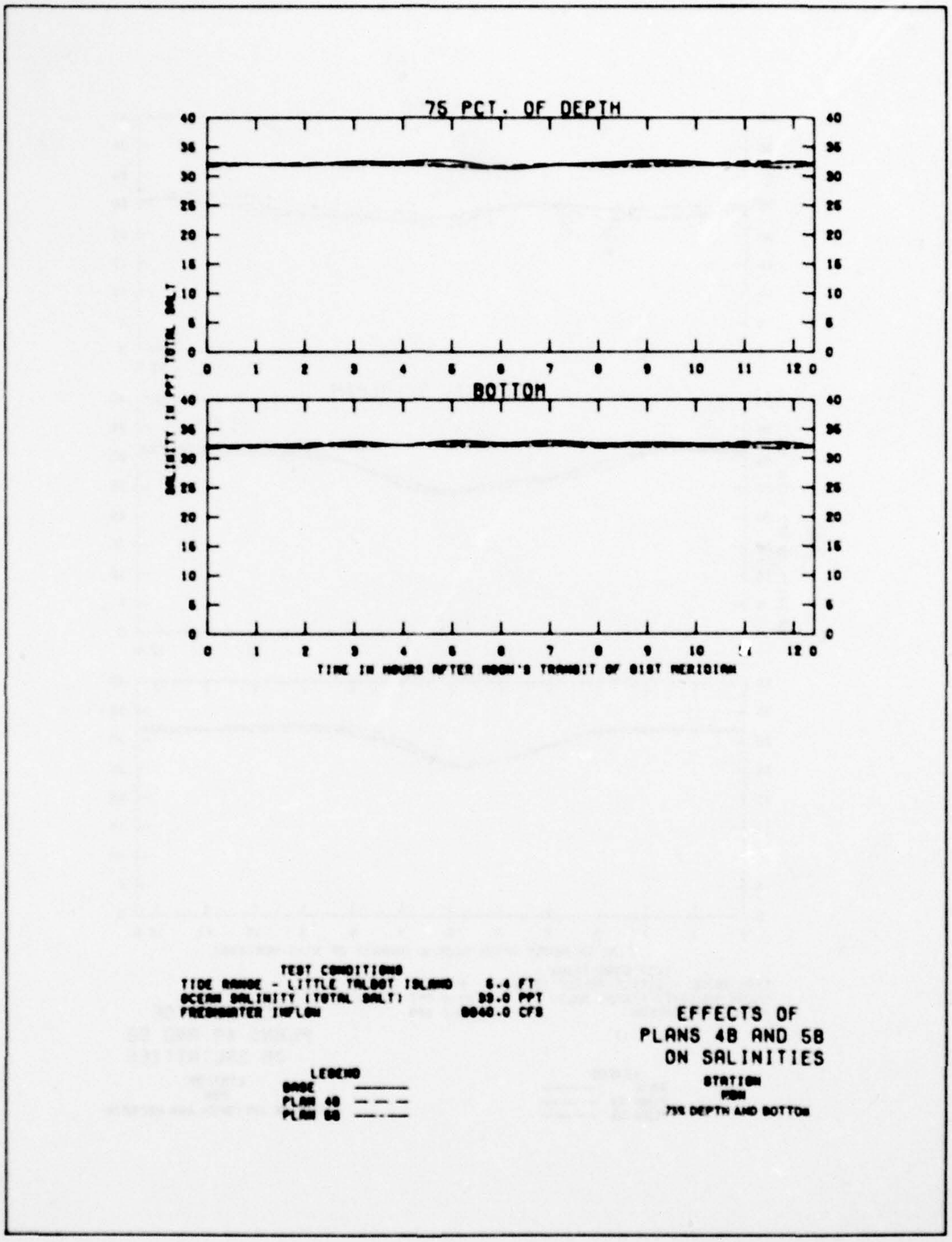
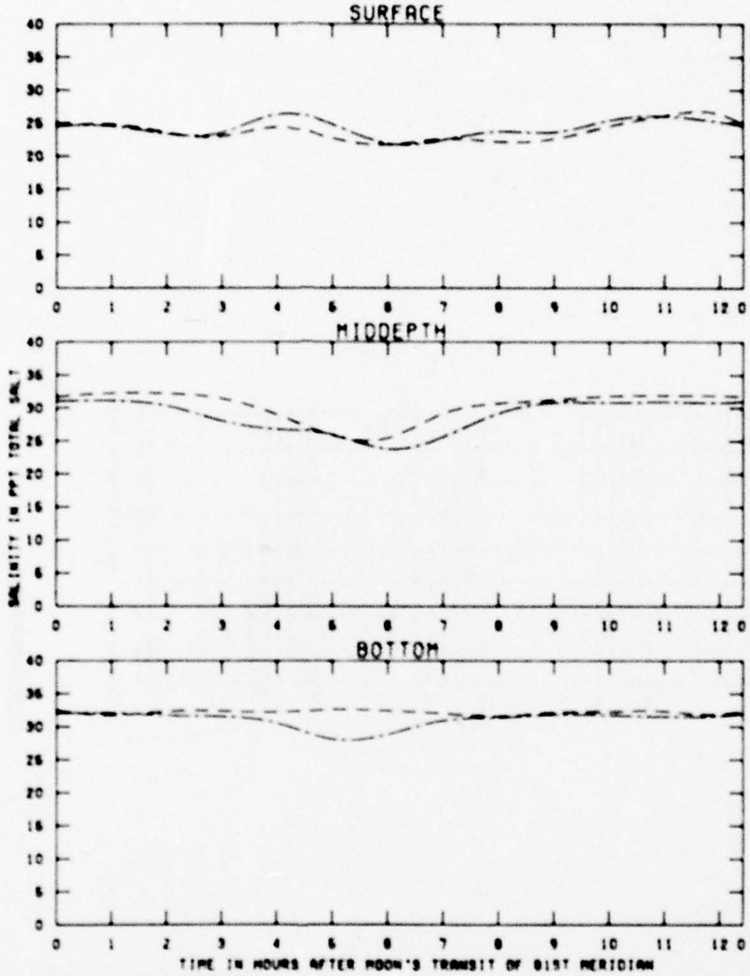

75 PCT. OF DEPTH
BOTTOM
SALINITY IN PPT TOTAL SALT
TIME IN HOURS AFTER MOON'S TRANSIT OF 81ST MERIDIAN
TEST CONDITIONS
TIDE RANGE - LITTLE TALBOT ISLAND 5.4 FT
OCEAN SALINITY (TOTAL SALT) 33.0 PPT
FRESHWATER INFLOW 8040.0 CFS
LEGEND
BASE
PLAN 4B
PLAN 5B
EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES
STATION
PBN
75% DEPTH AND BOTTOM

PLATE 168



TEST CONDITIONS

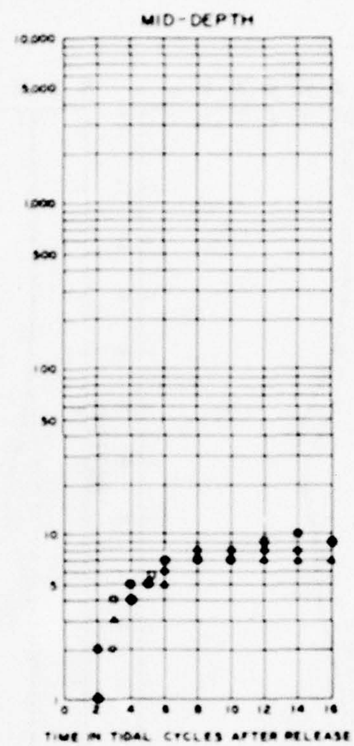
TIDE RANGE - LITTLE TALBOT ISLAND	5.4 FT	
OCEAN SALINITY (TOTAL SALT)	33.0 PPT	
FRESHWATER INFLOW	8840.0 CFS	

LEGEND

PLAN 4B — — —
PLAN 5B —·—

EFFECTS OF
PLANS 4B AND 5B
ON SALINITIES

STATION
ABP

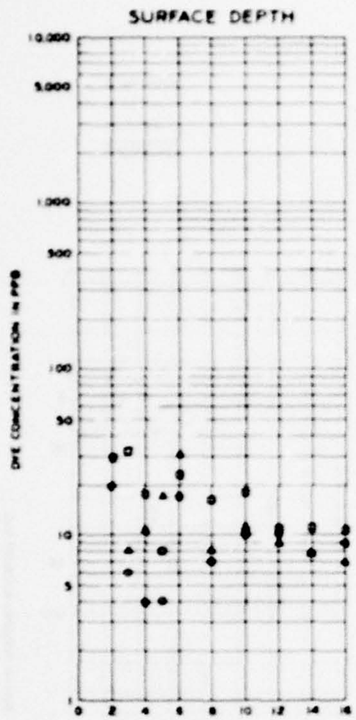


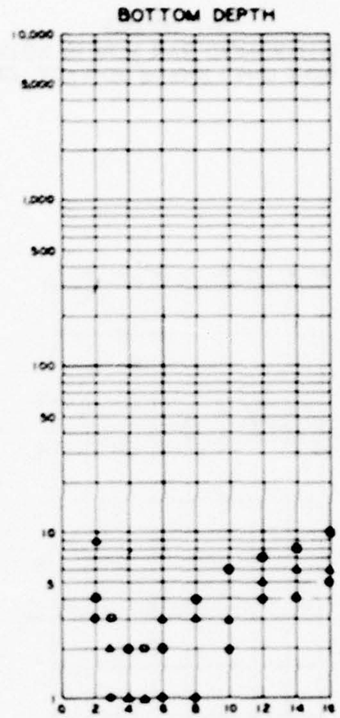
LEGEND
- O BASE
- Δ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION SUMP





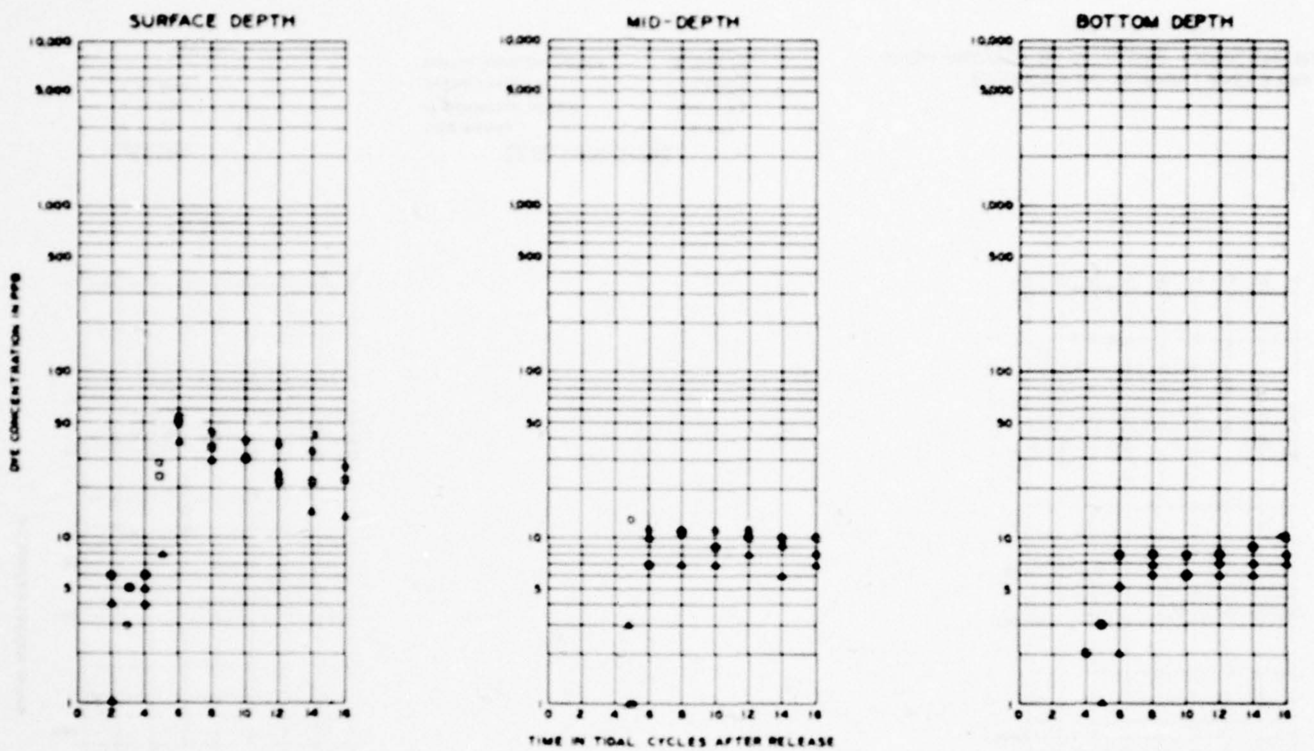
LEGEND

O BASE
Δ PLAN 1
□ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION OCEAN



LEGEND

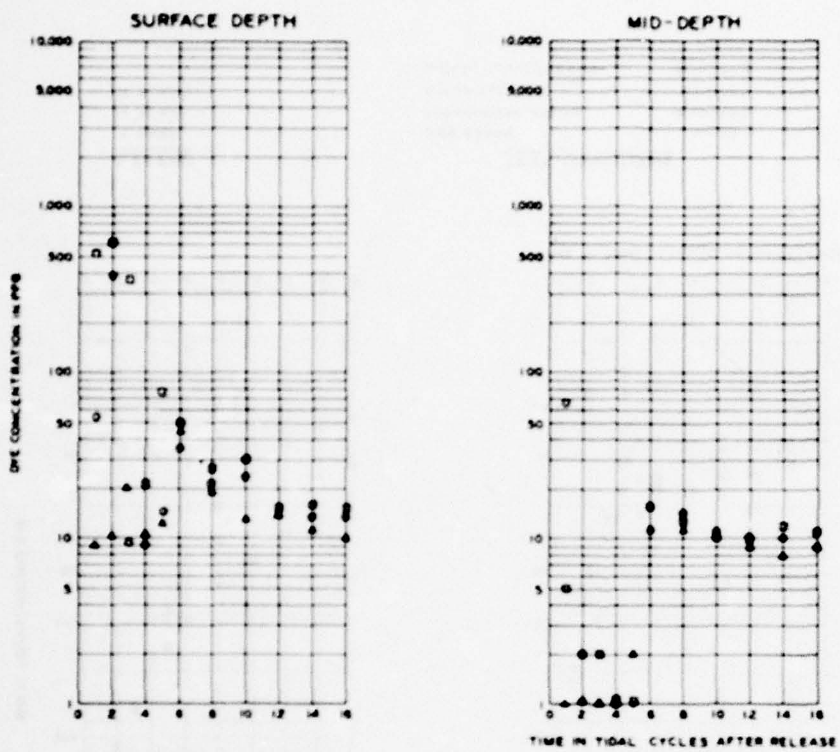
- ○ BASE
- △ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION Y-A



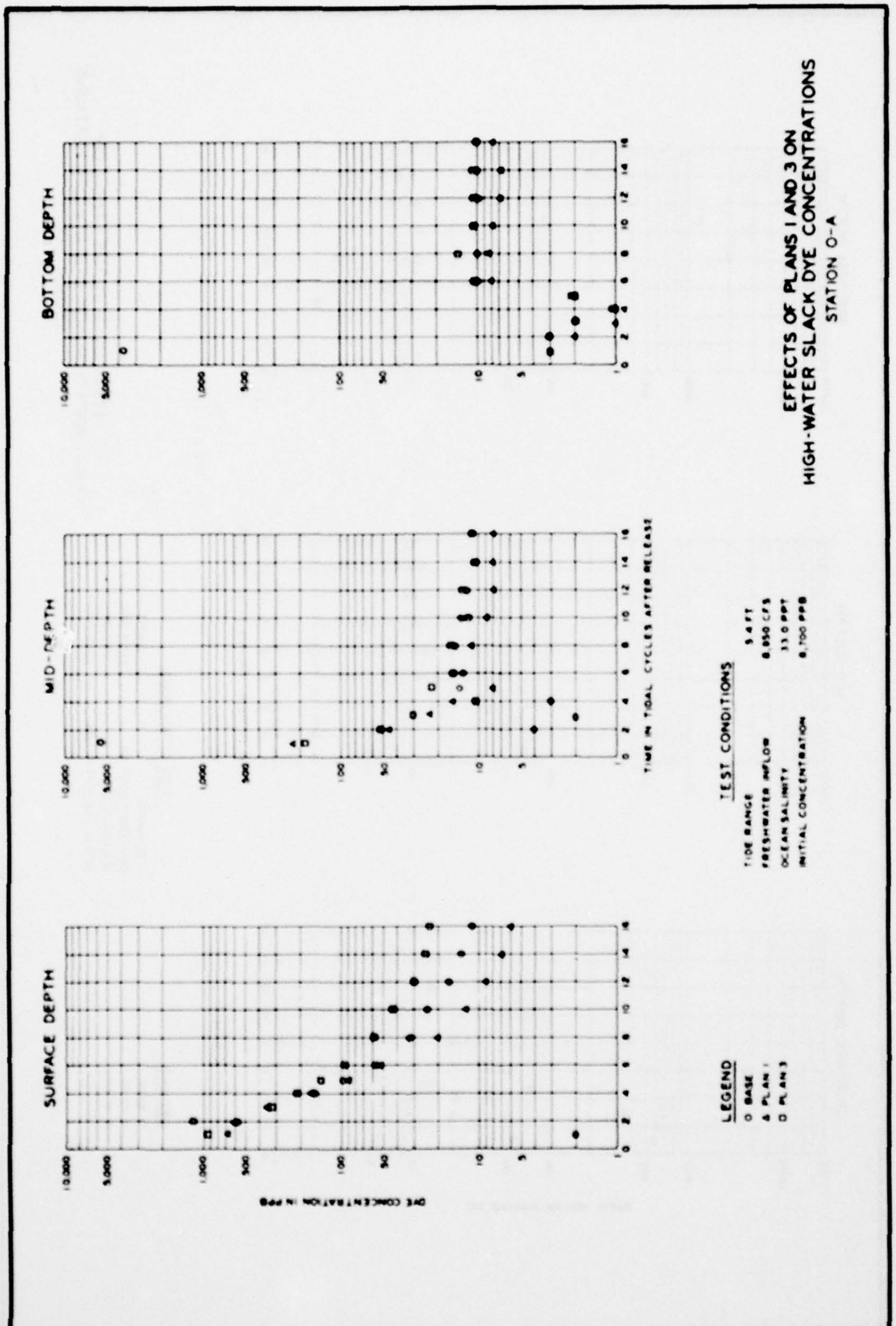
LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

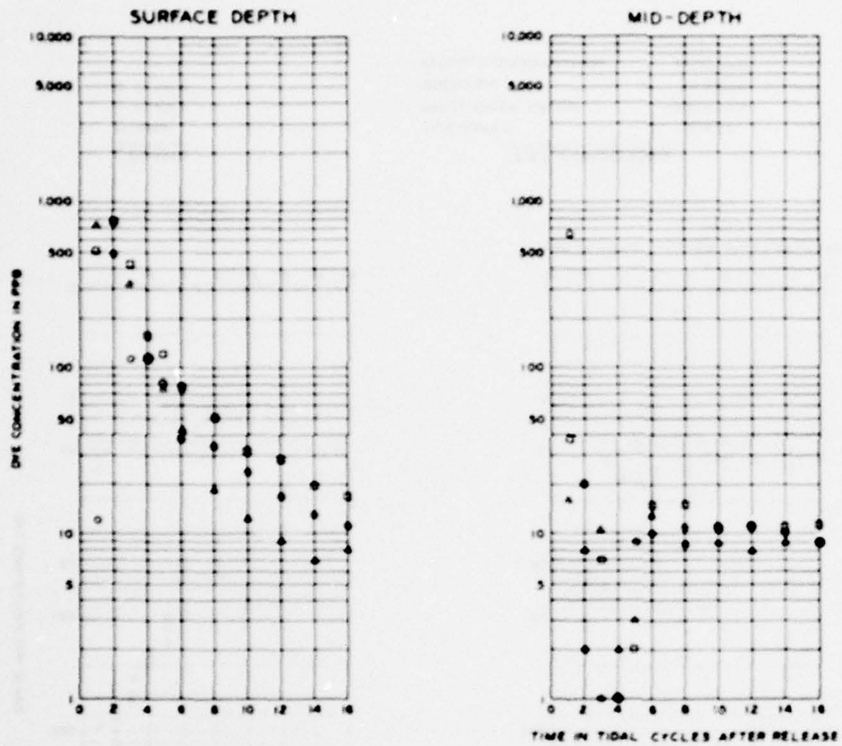
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION Z-B



EFFECTS OF PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION O-A



LEGEND

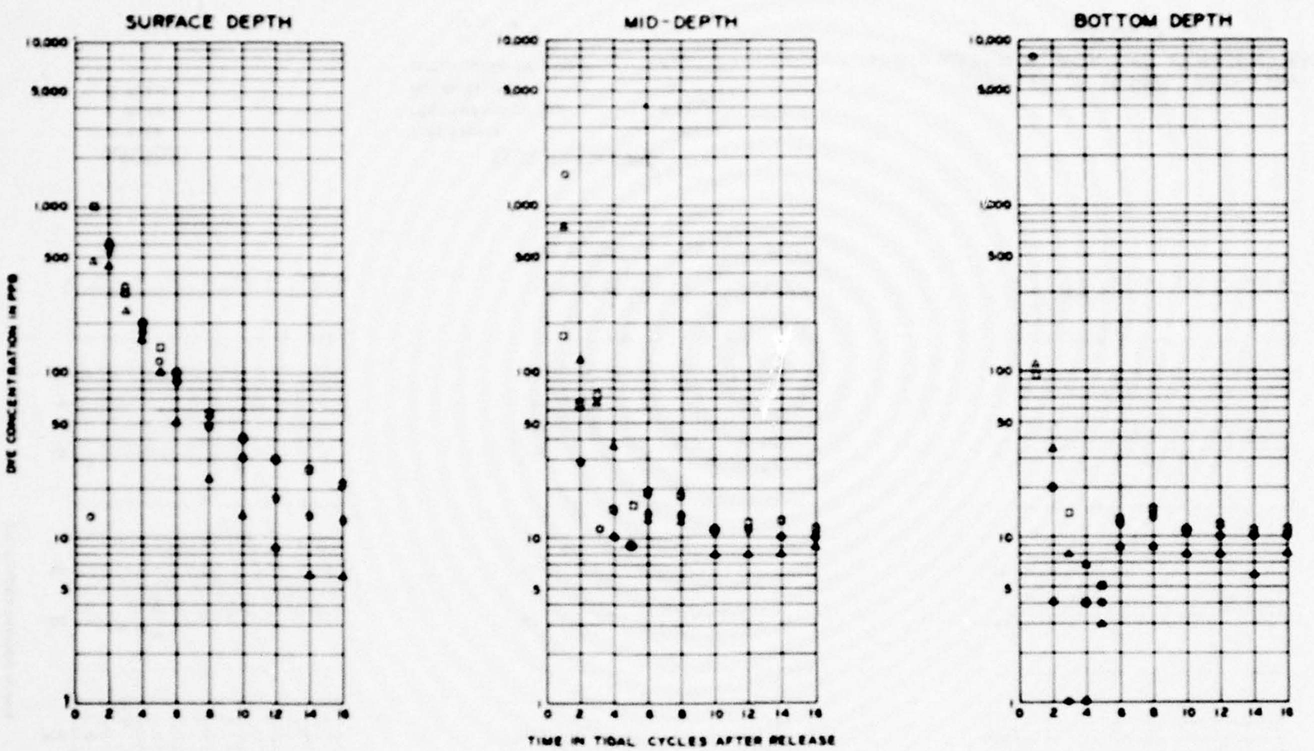
- O BASE
- △ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION O-B



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

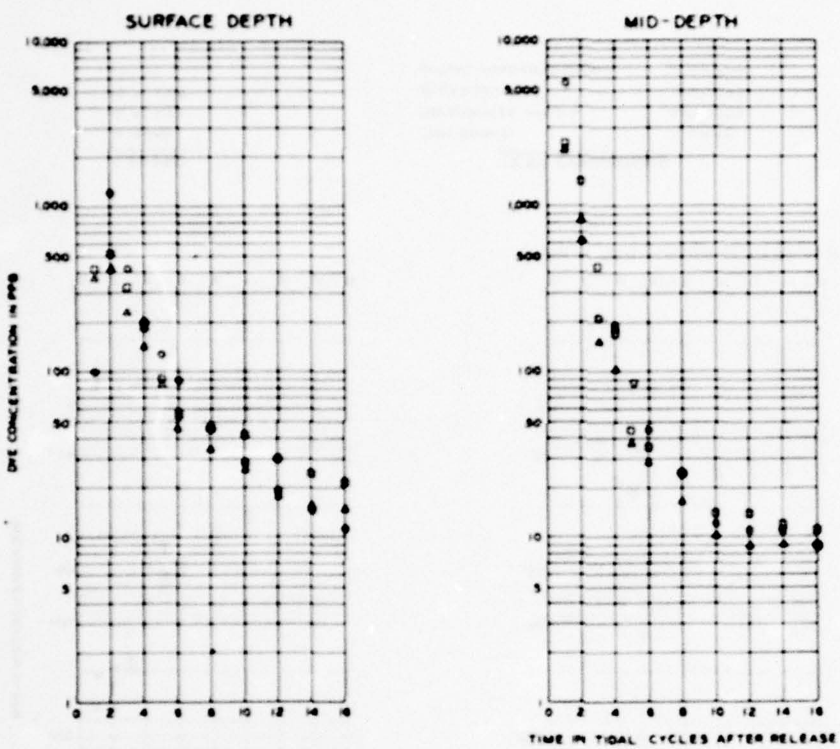
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION OA-A



LEGEND

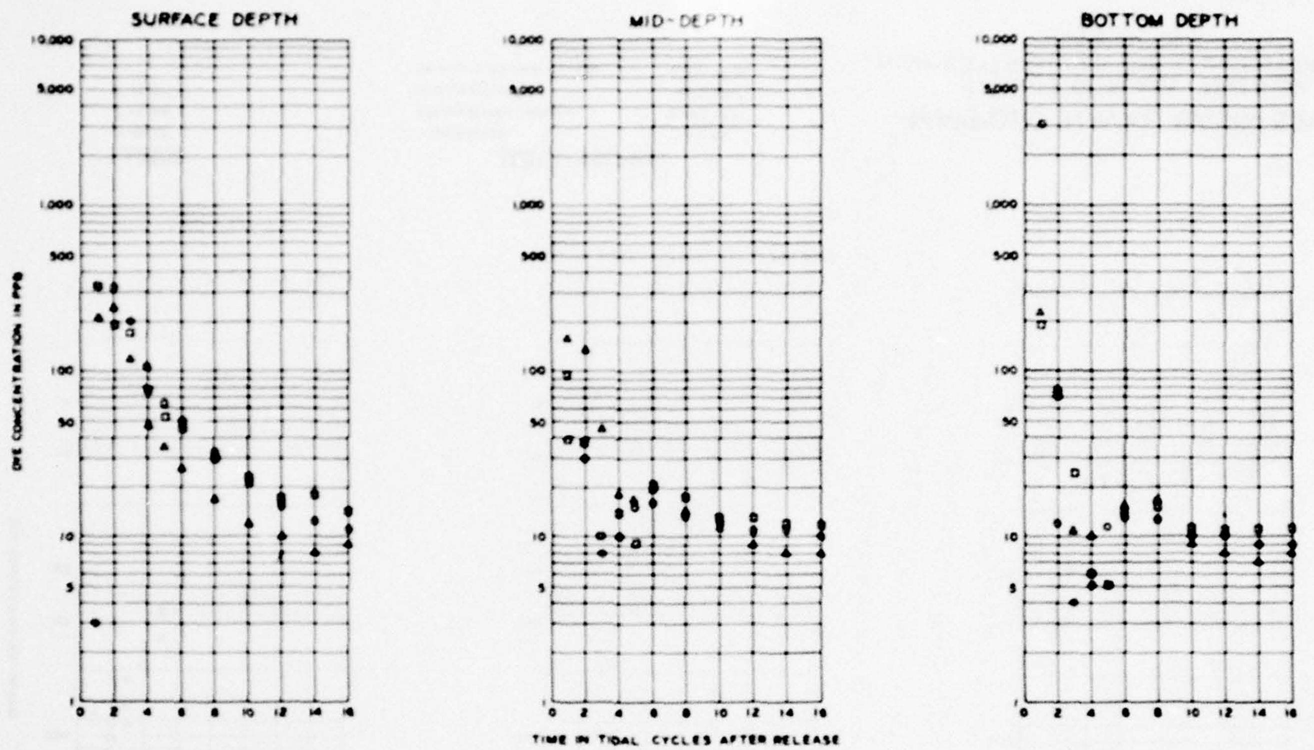
- ○ BASE
- △ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION OB-A



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

TEST CONDITIONS

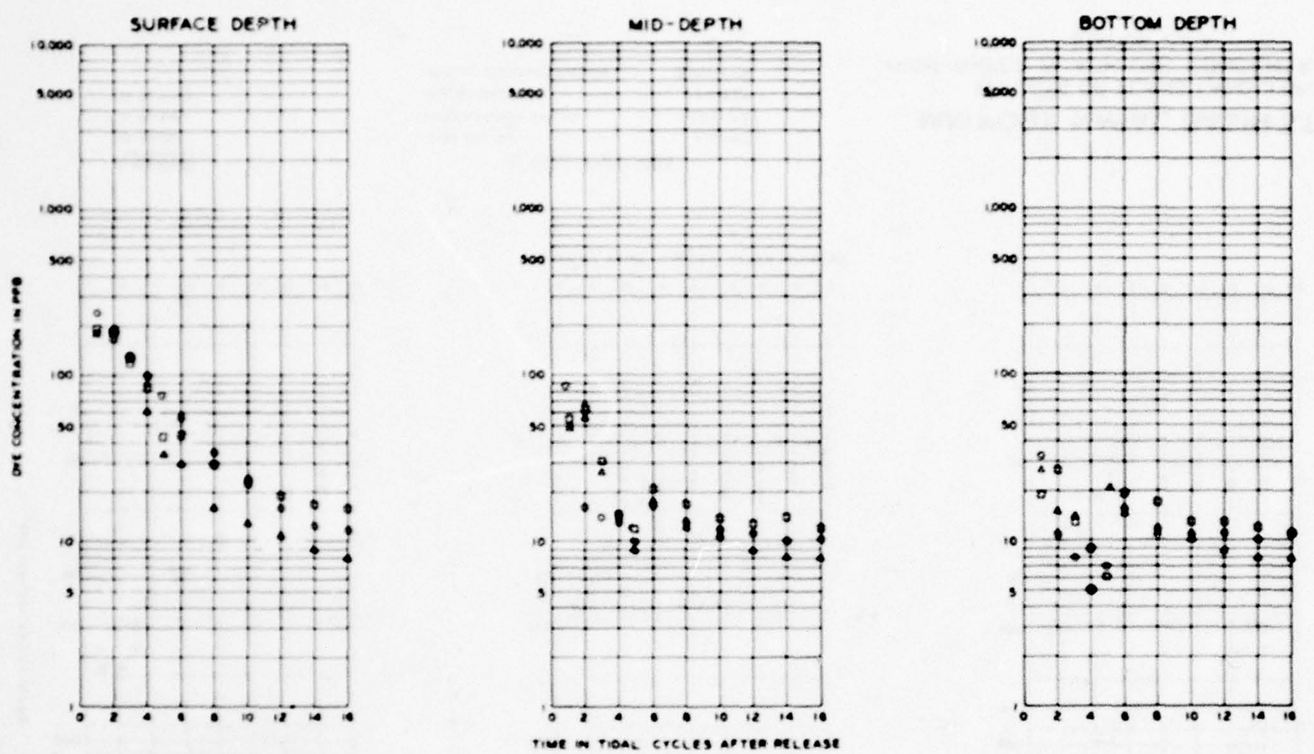
TIDE RANGE	5.4 FT
FRESHWATER INFLOW	6,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION OB-C

PLATE 178



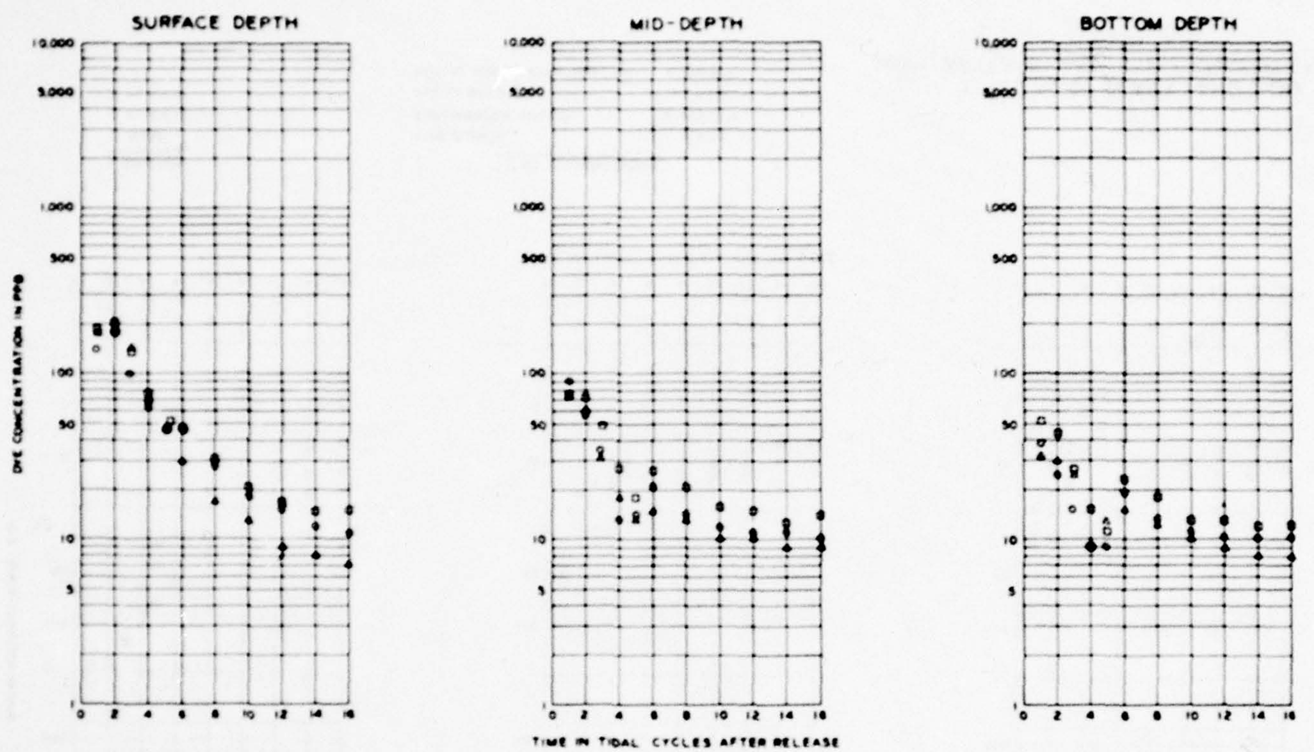
LEGEND

○ BASE
△ PLAN 1
□ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS
STATION 1A-B



LEGEND

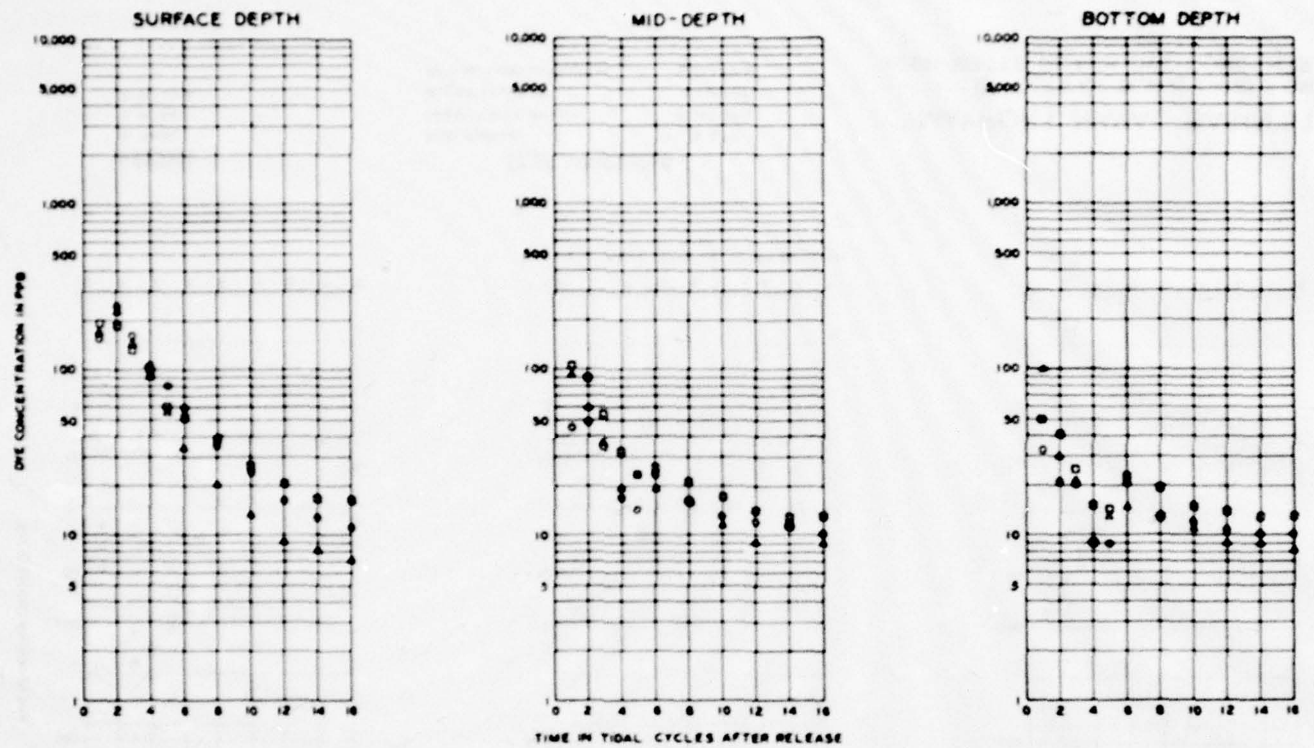
○ BASE
△ PLAN 1
□ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION 2A-A



LEGEND

- O BASE
- Δ PLAN 1
- □ PLAN 3

TEST CONDITIONS

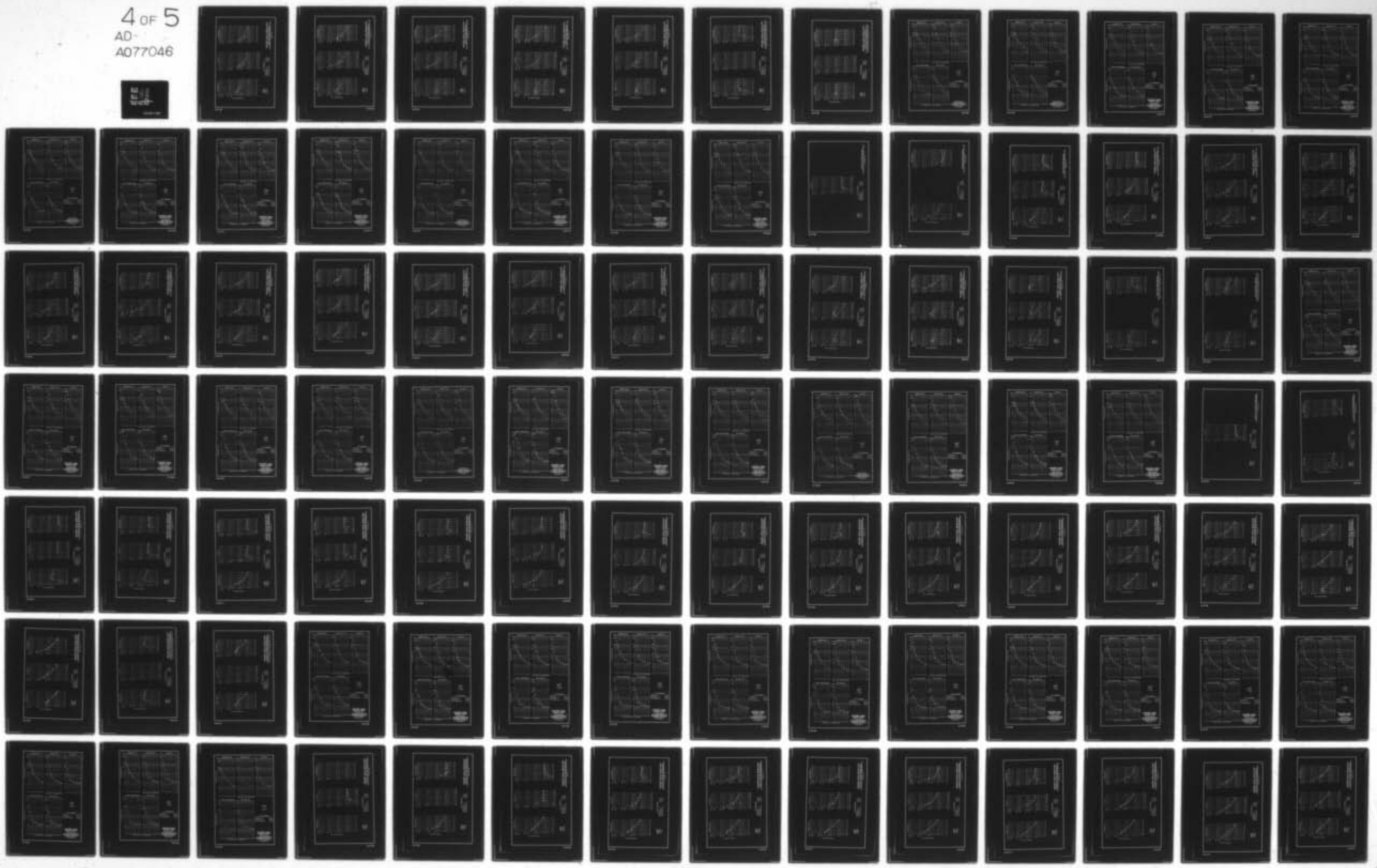
TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

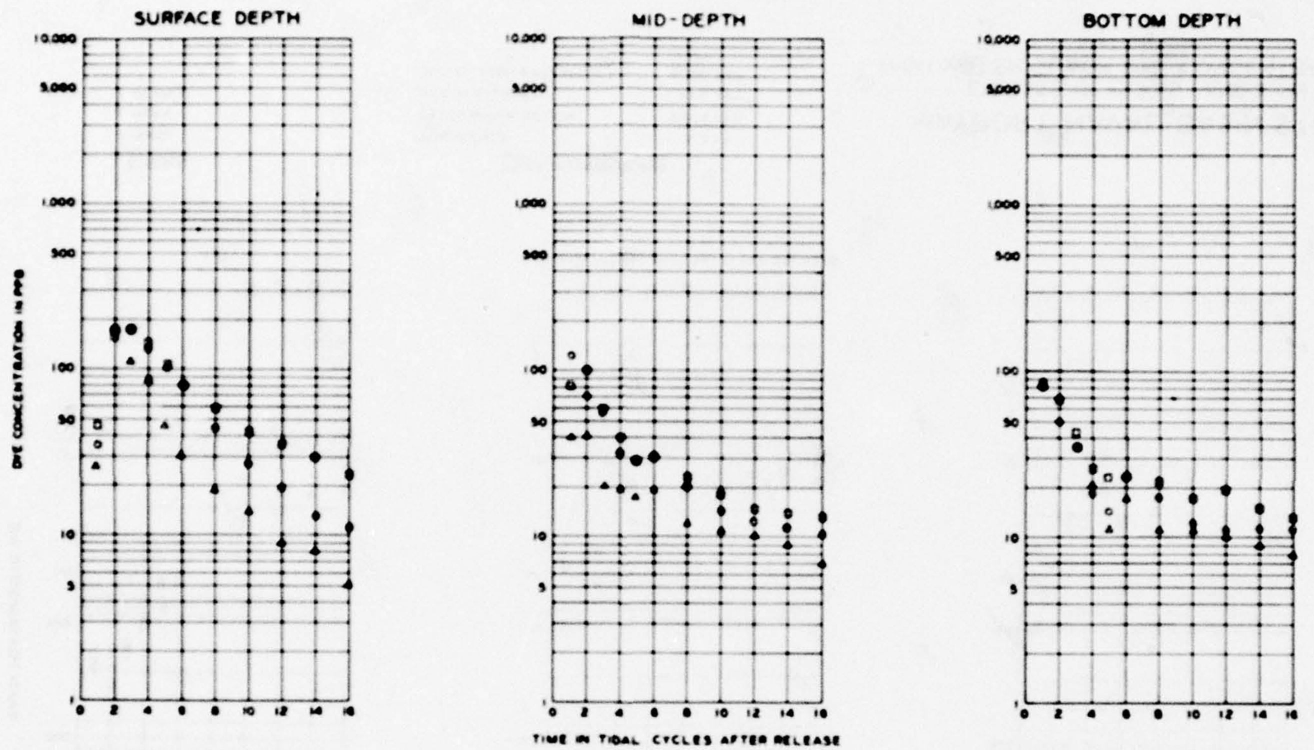
MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION 3A

AD-A077 046 ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MS F/G 8/8
MAYPORT-MILL COVE MODEL STUDY. REPORT 2. MAYPORT NAVAL BASIN ST--ETC(U)
AUG 79 N J BROGDON
UNCLASSIFIED WES-TR-HL-79-12 NL

4 OF 5
AD-
A077046





LEGEND

- O BASE
- ▲ PLAN 1
- □ PLAN 3

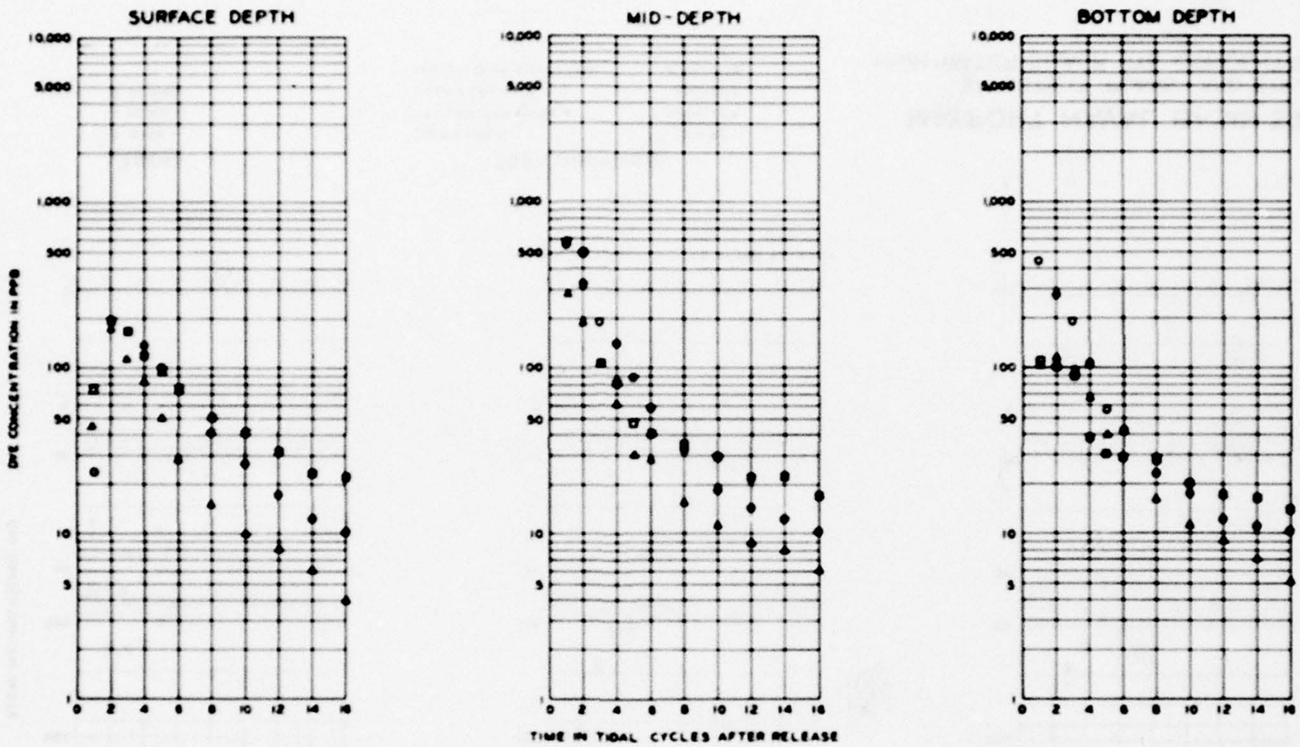
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 5A



LEGEND

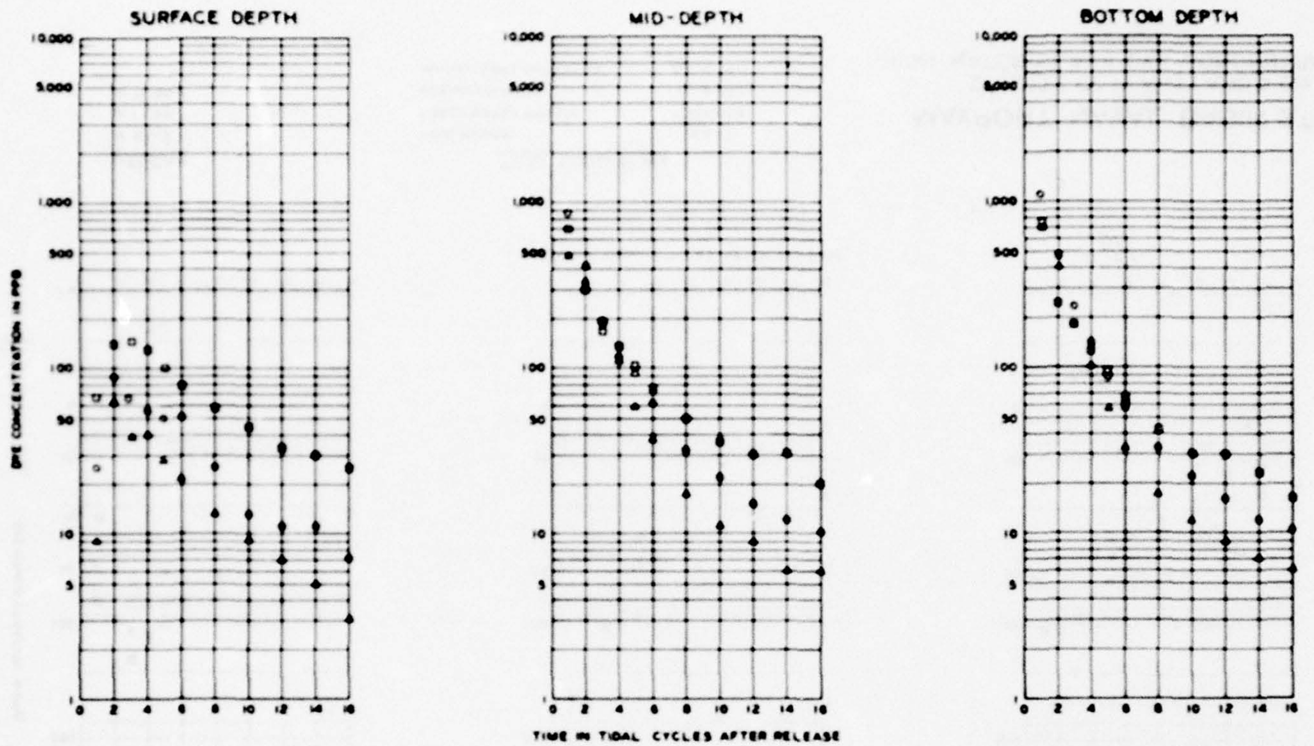
- O BASE
- △ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION 7B



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

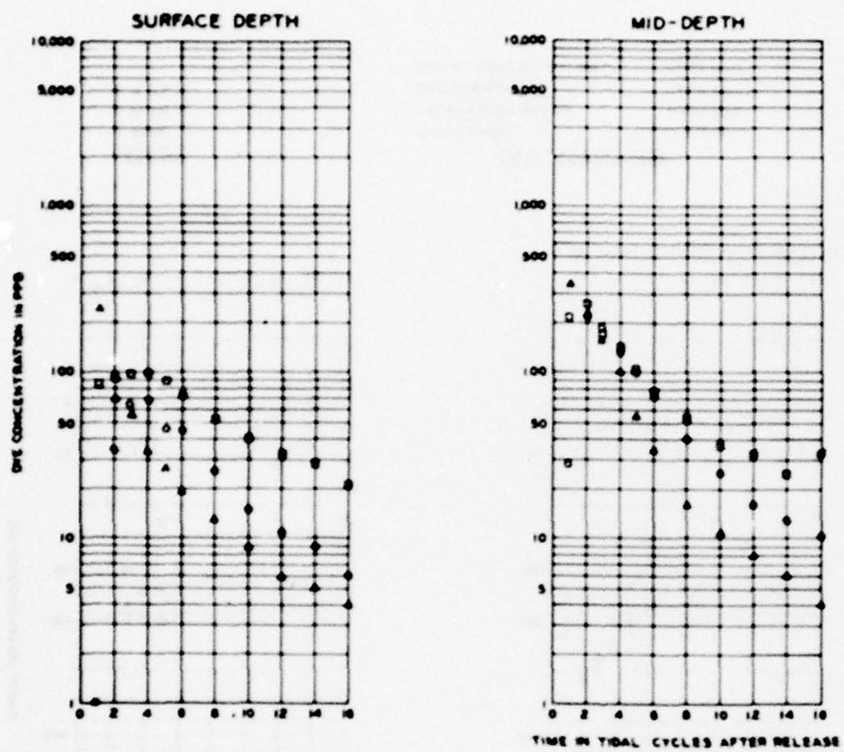
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 9B



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

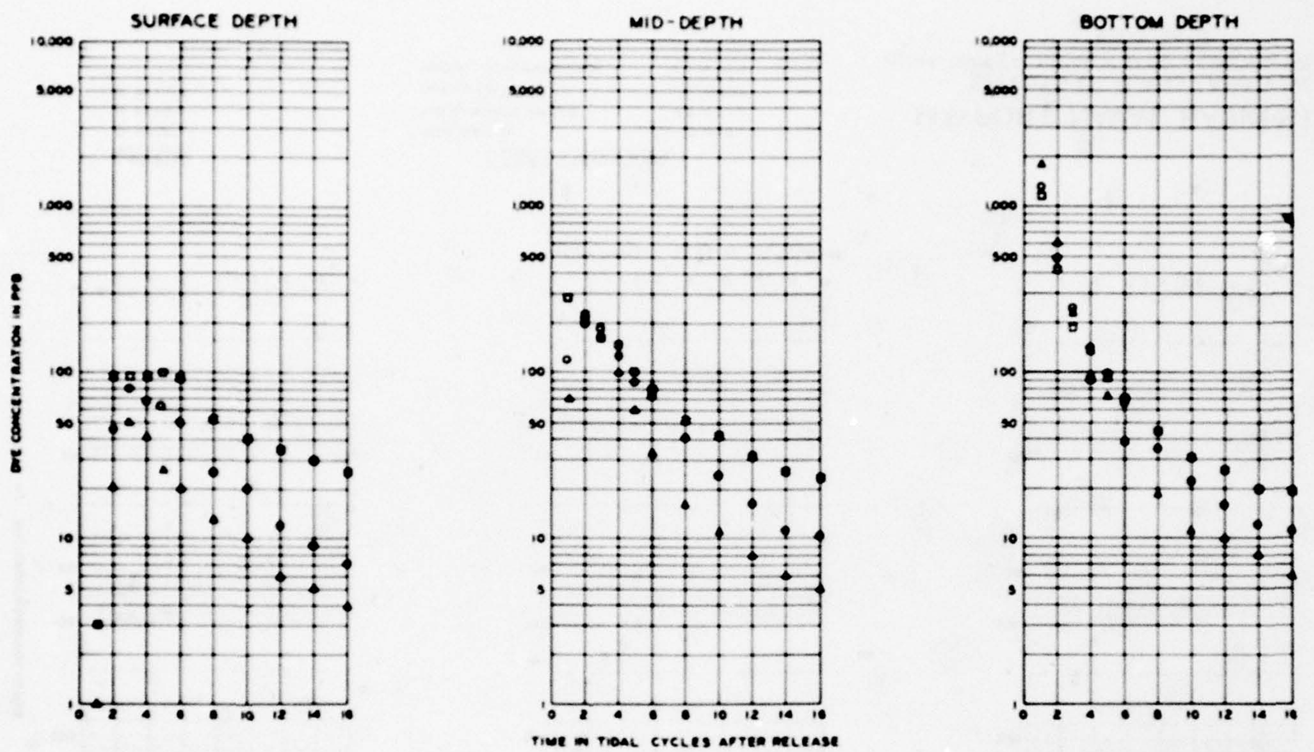
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	6,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 9A-B



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

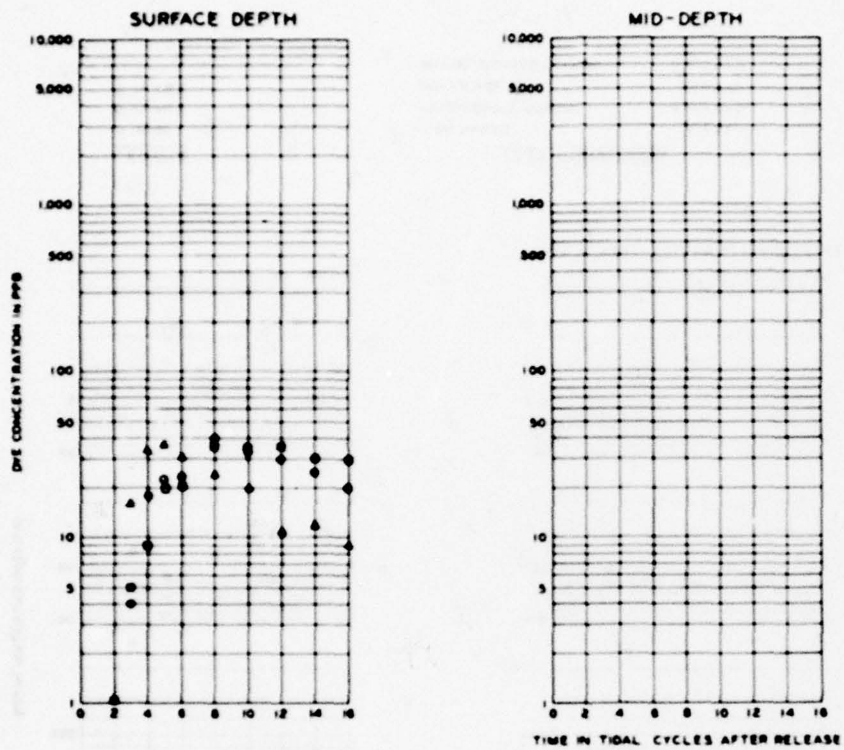
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 10-A



LEGEND

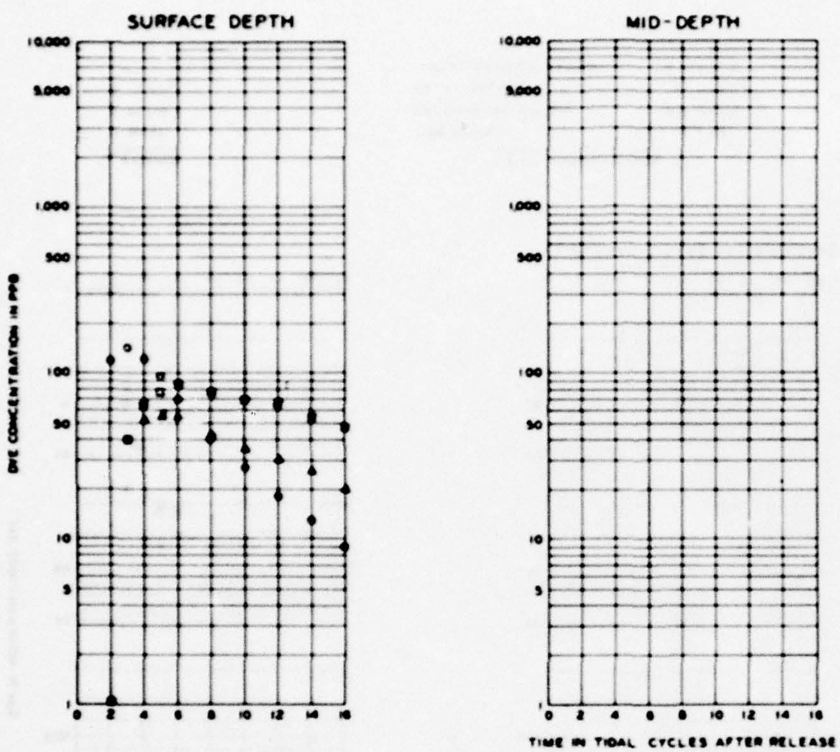
- O BASE
- △ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION INTRACOASTAL WATERWAY-NORTH (IW-N)



LEGEND

- O BASE
- △ PLAN 1
- ◻ PLAN 3

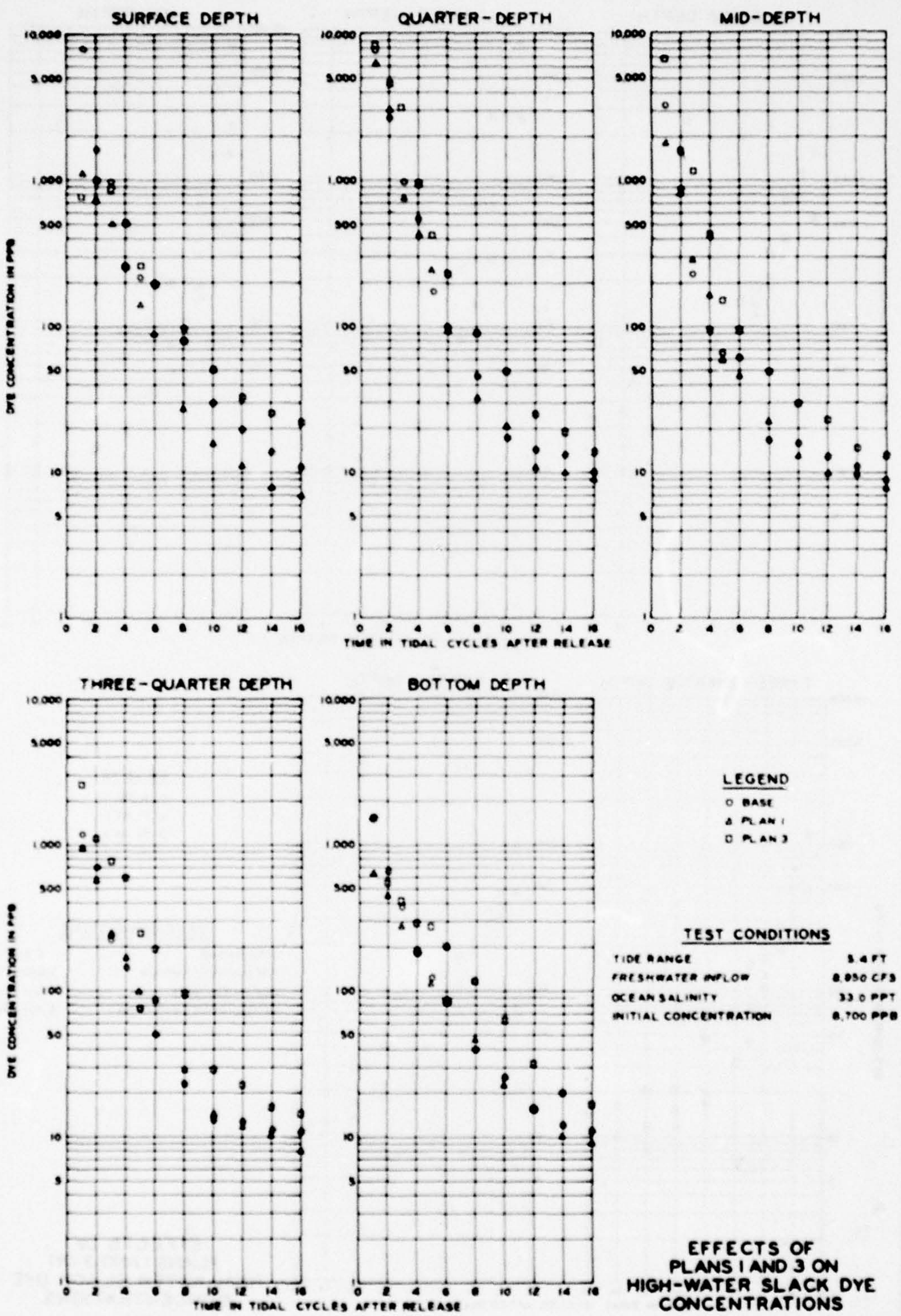
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

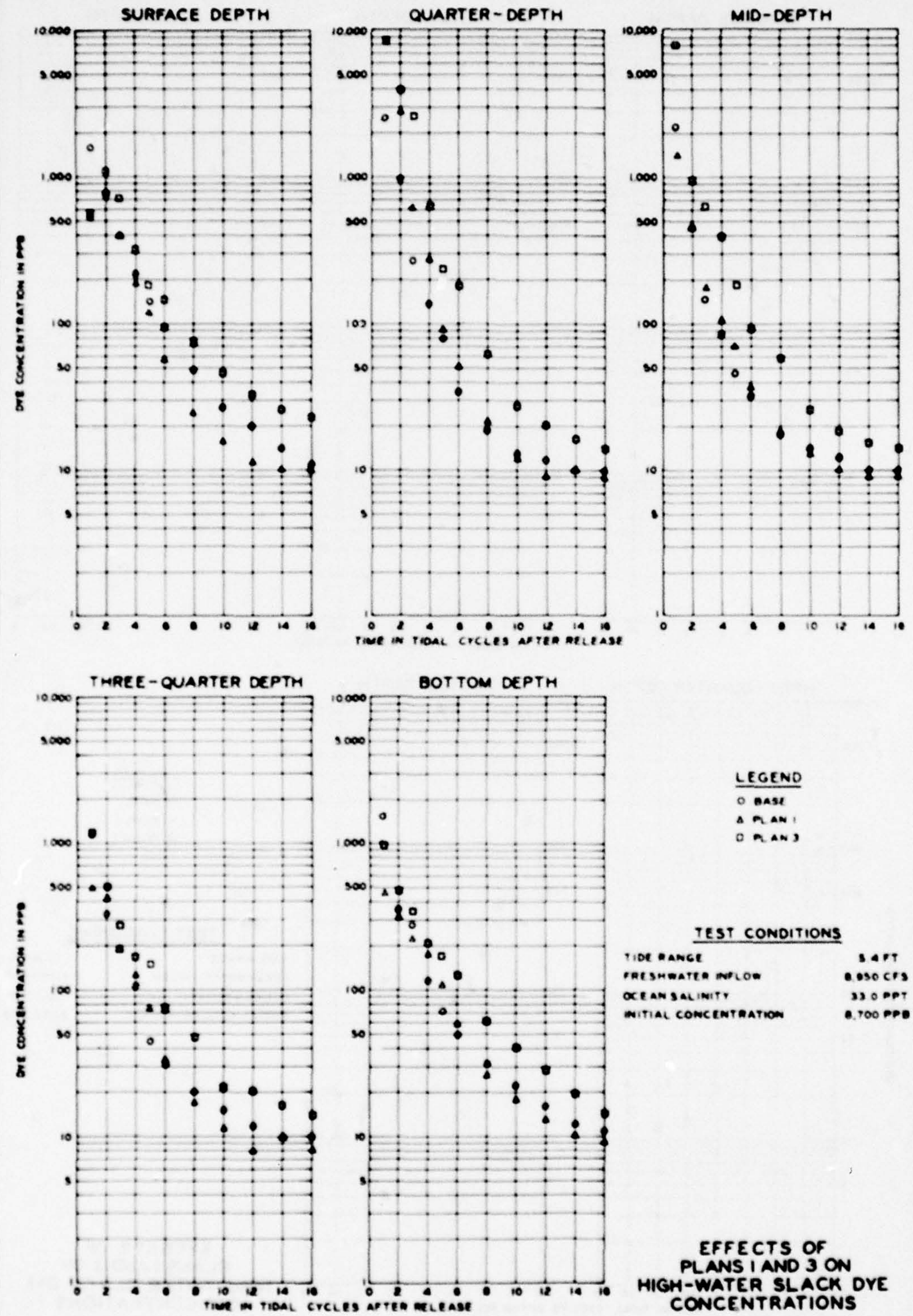
STATION INTRACOASTAL WATERWAY-SOUTH (IW-S)



TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

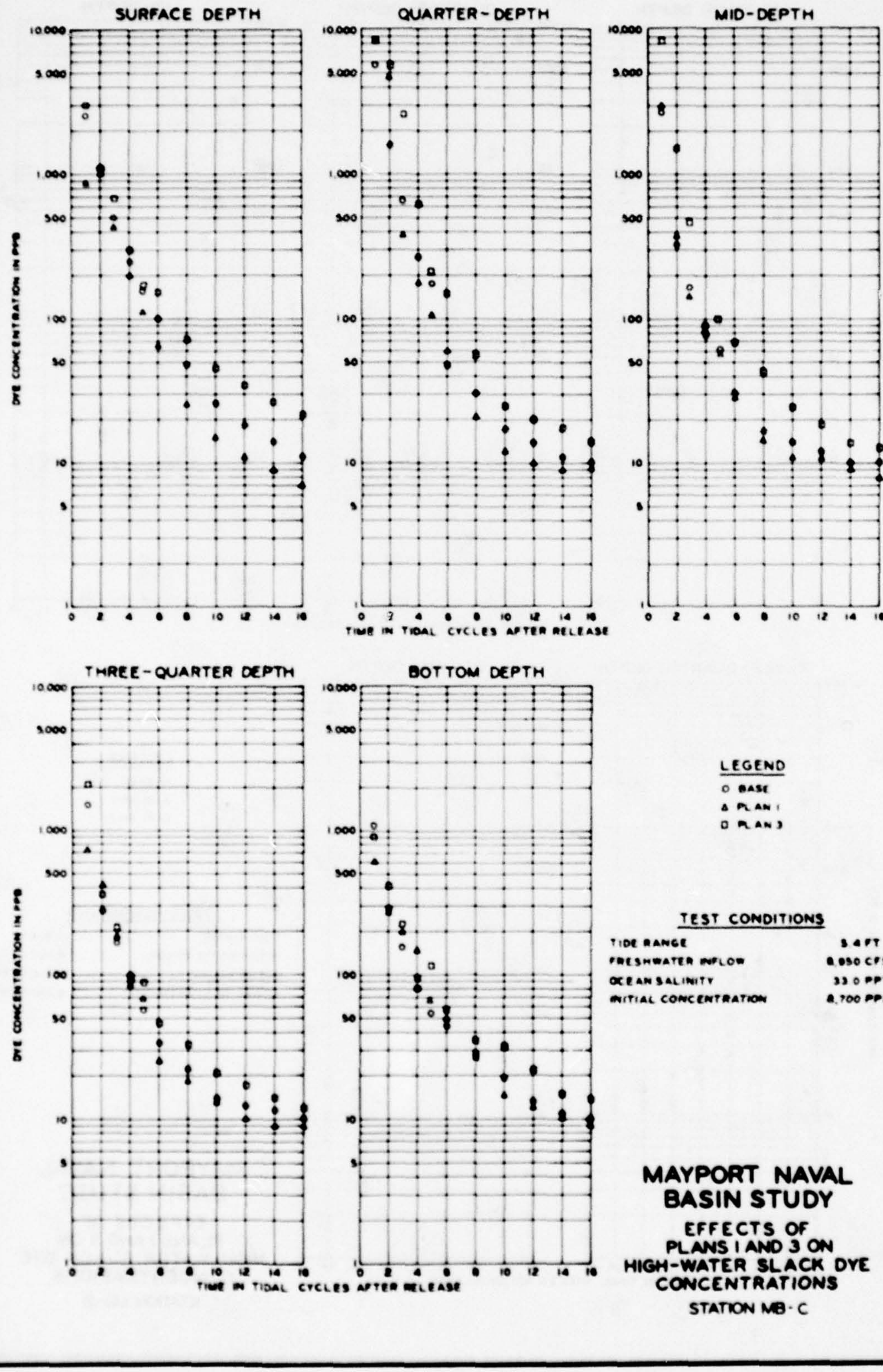
EFFECTS OF
PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE
CONCENTRATIONS
STATION MB-A



EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-B

PLATE 190



LEGEND

○ BASE
△ PLAN 1
□ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-C

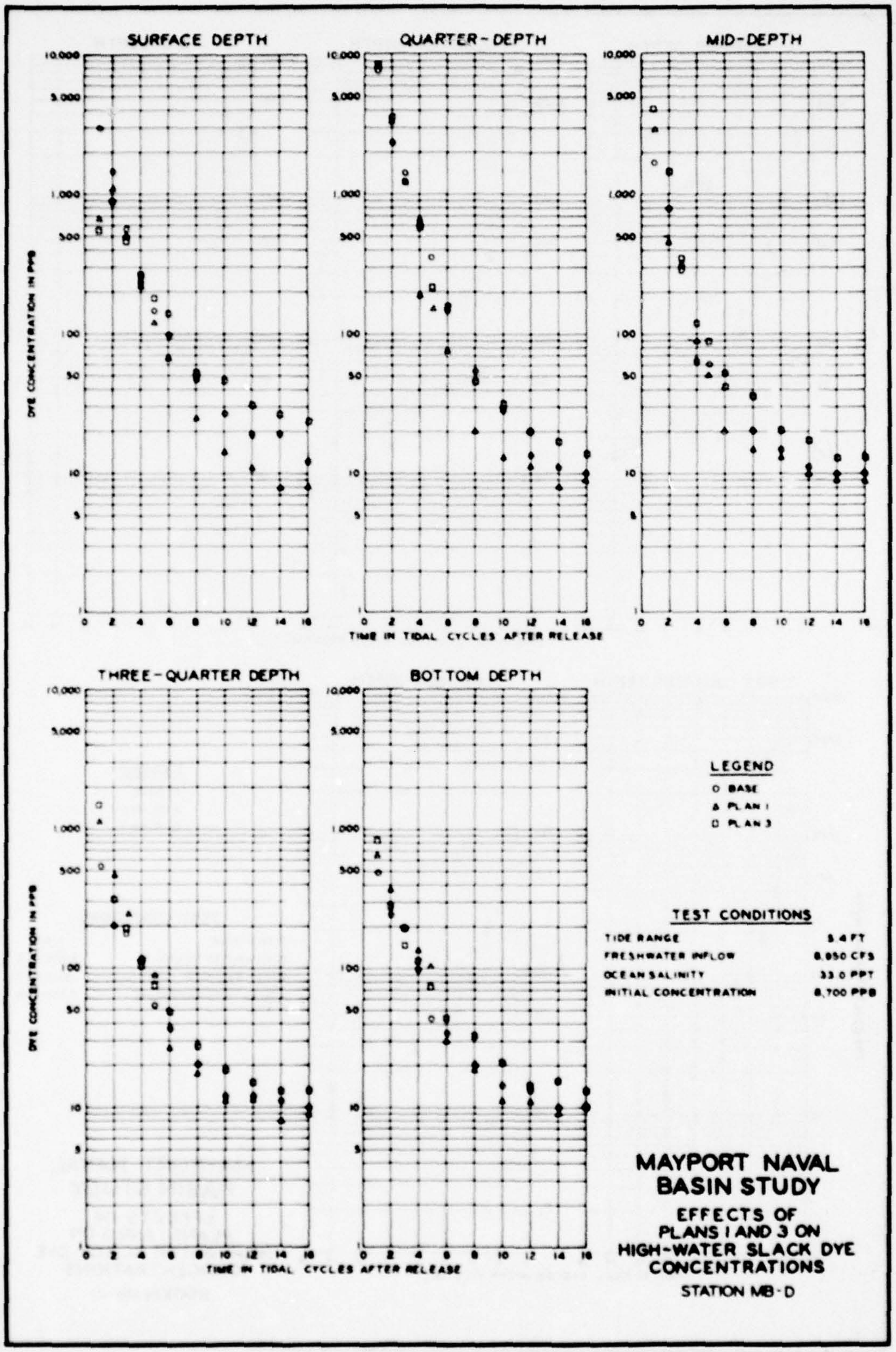
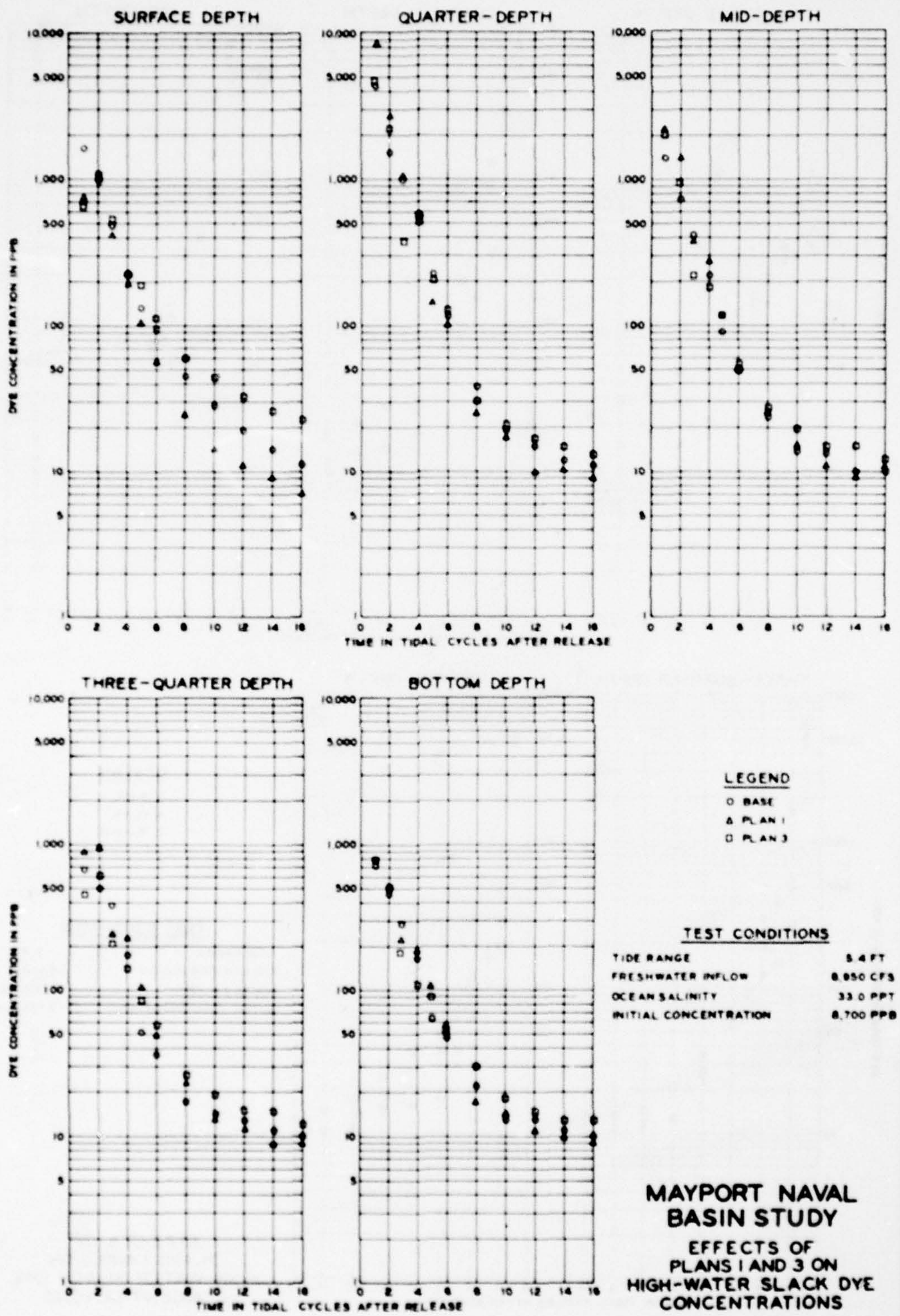

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
O BASE
Δ PLAN 1
□ PLAN 3
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,850 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS
STATION MB-D

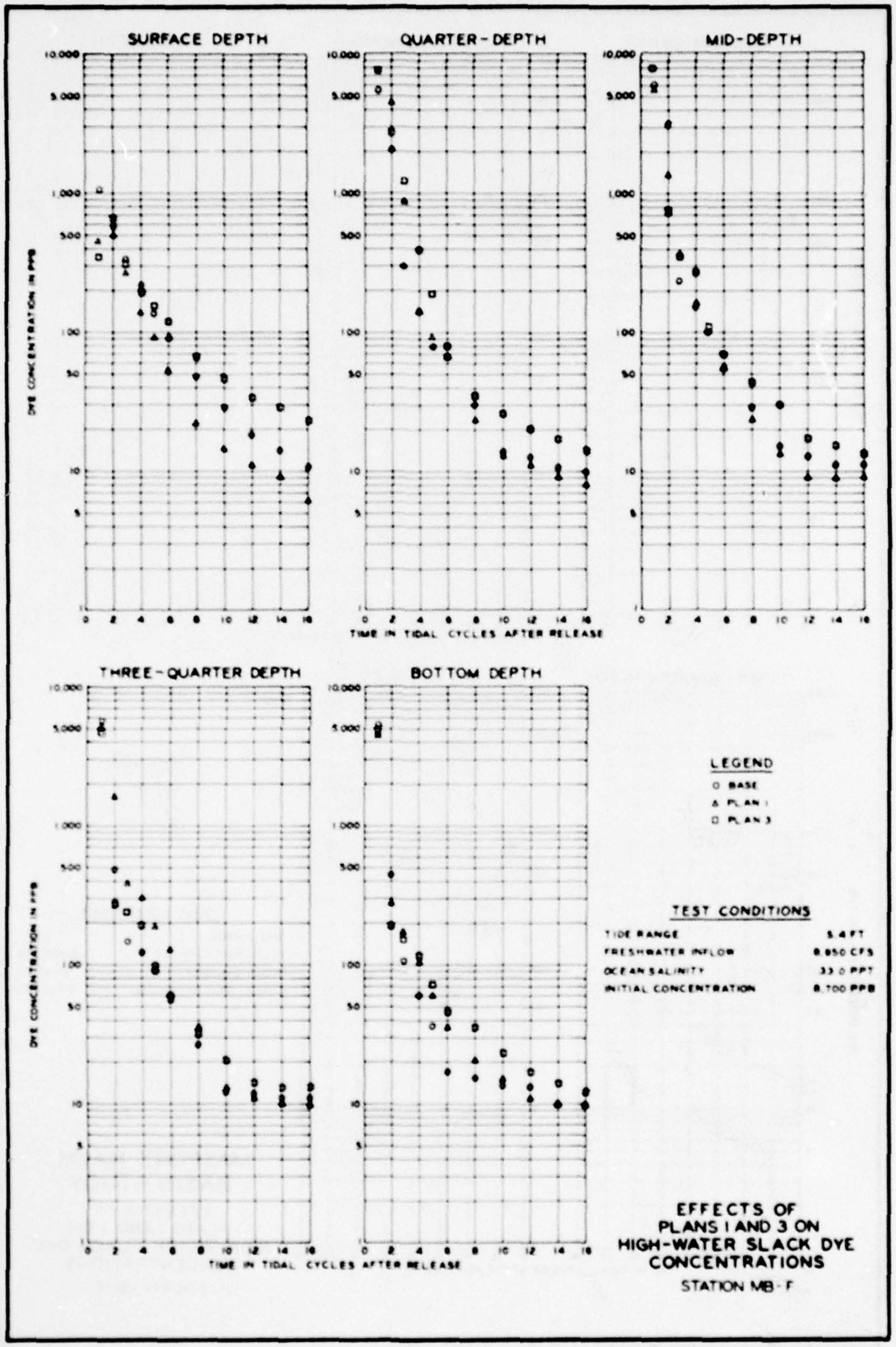
PLATE 192



MAYPORT NAVAL BASIN STUDY

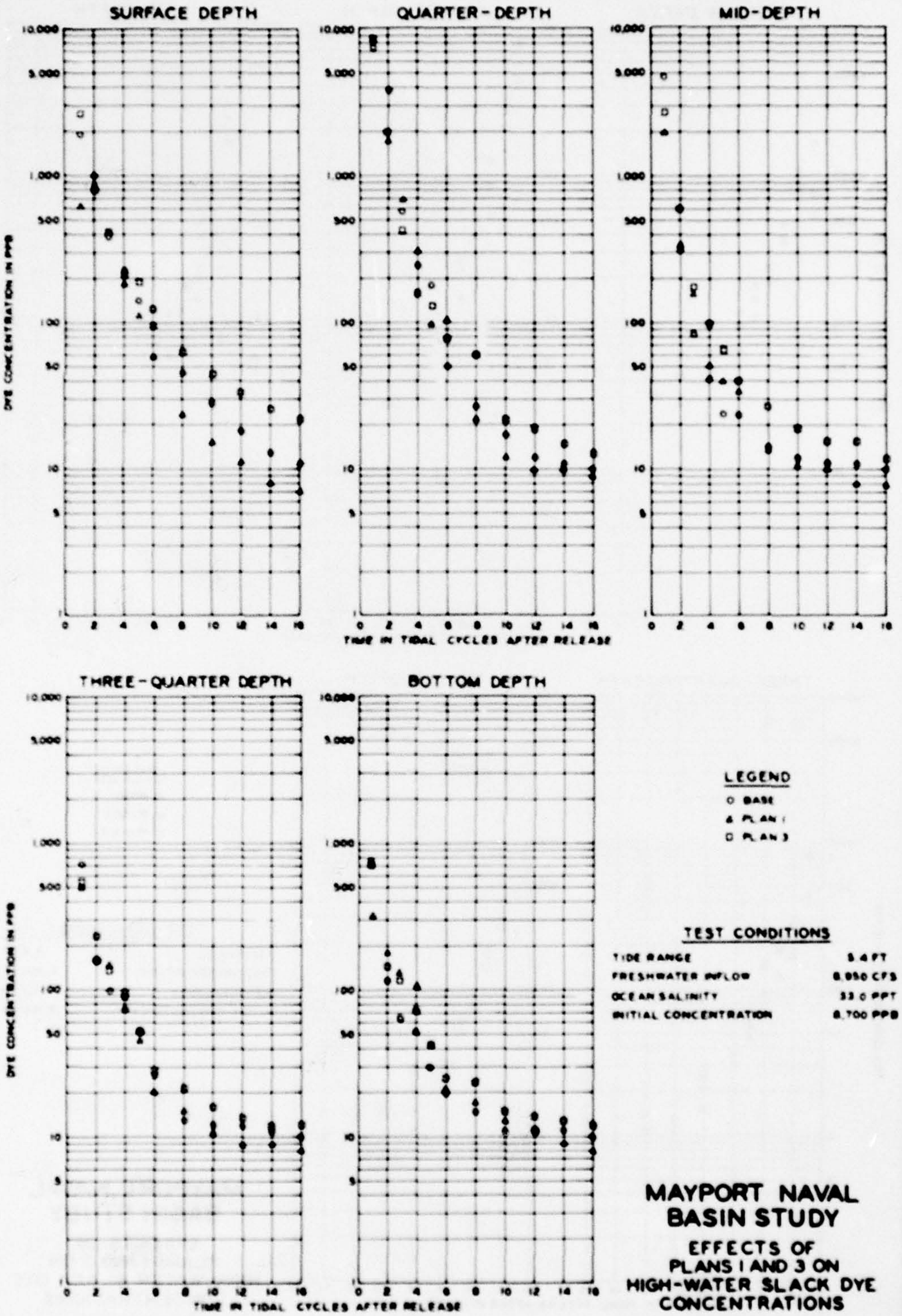
EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-E



EFFECTS OF
PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE
CONCENTRATIONS
STATION MB-F

PLATE 194



LEGEND

- ○ BASE
- △ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-G

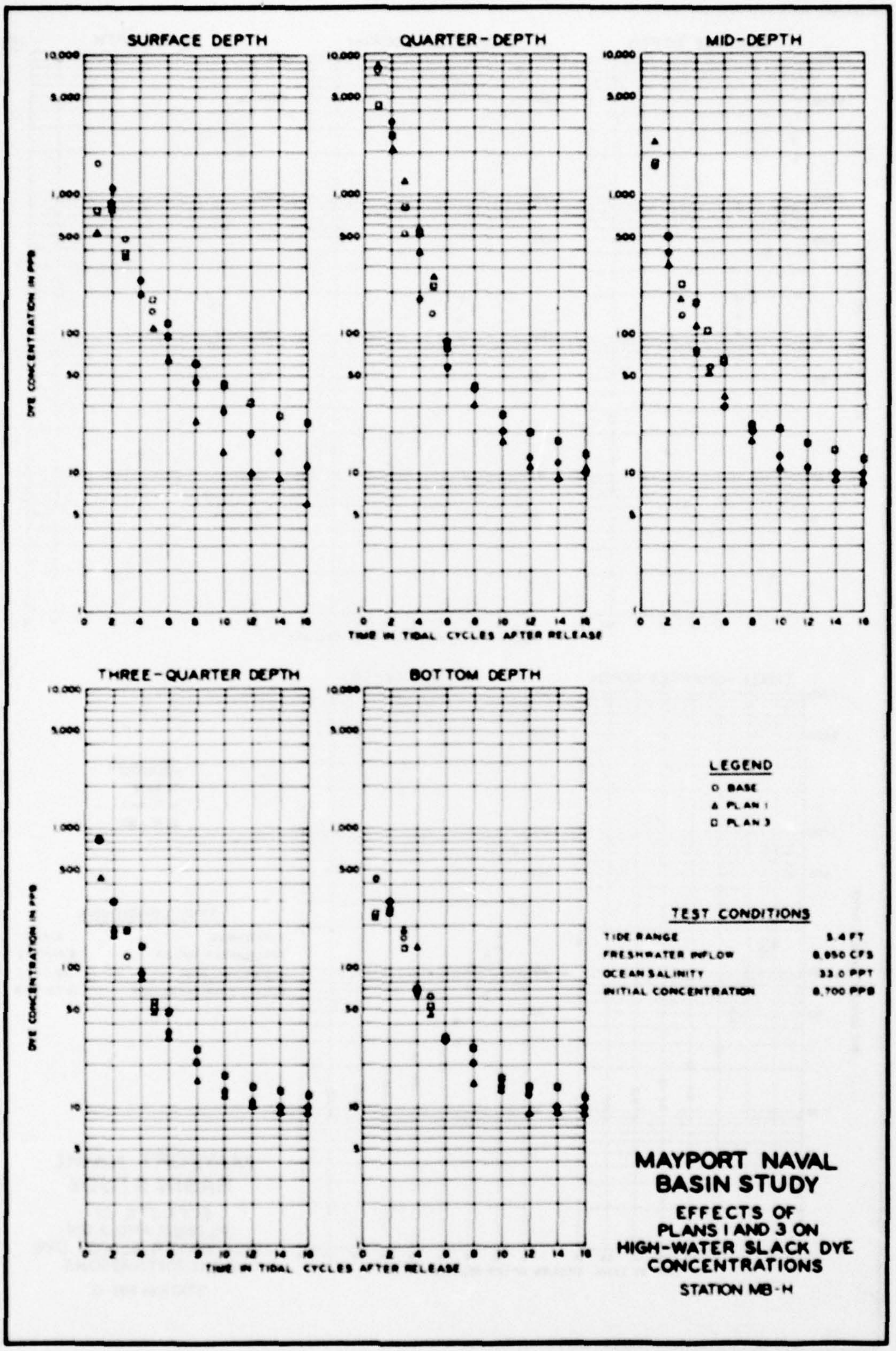
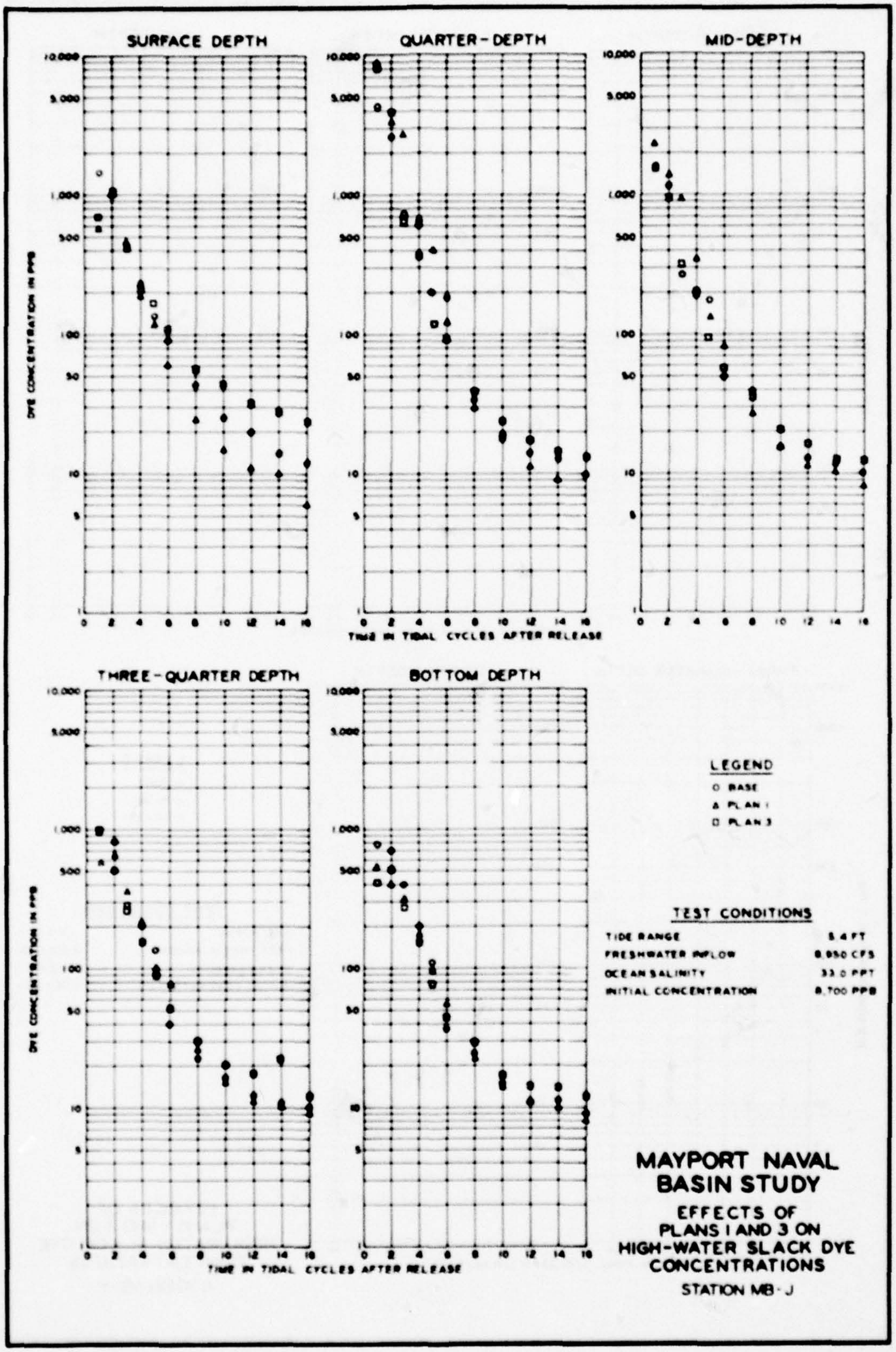
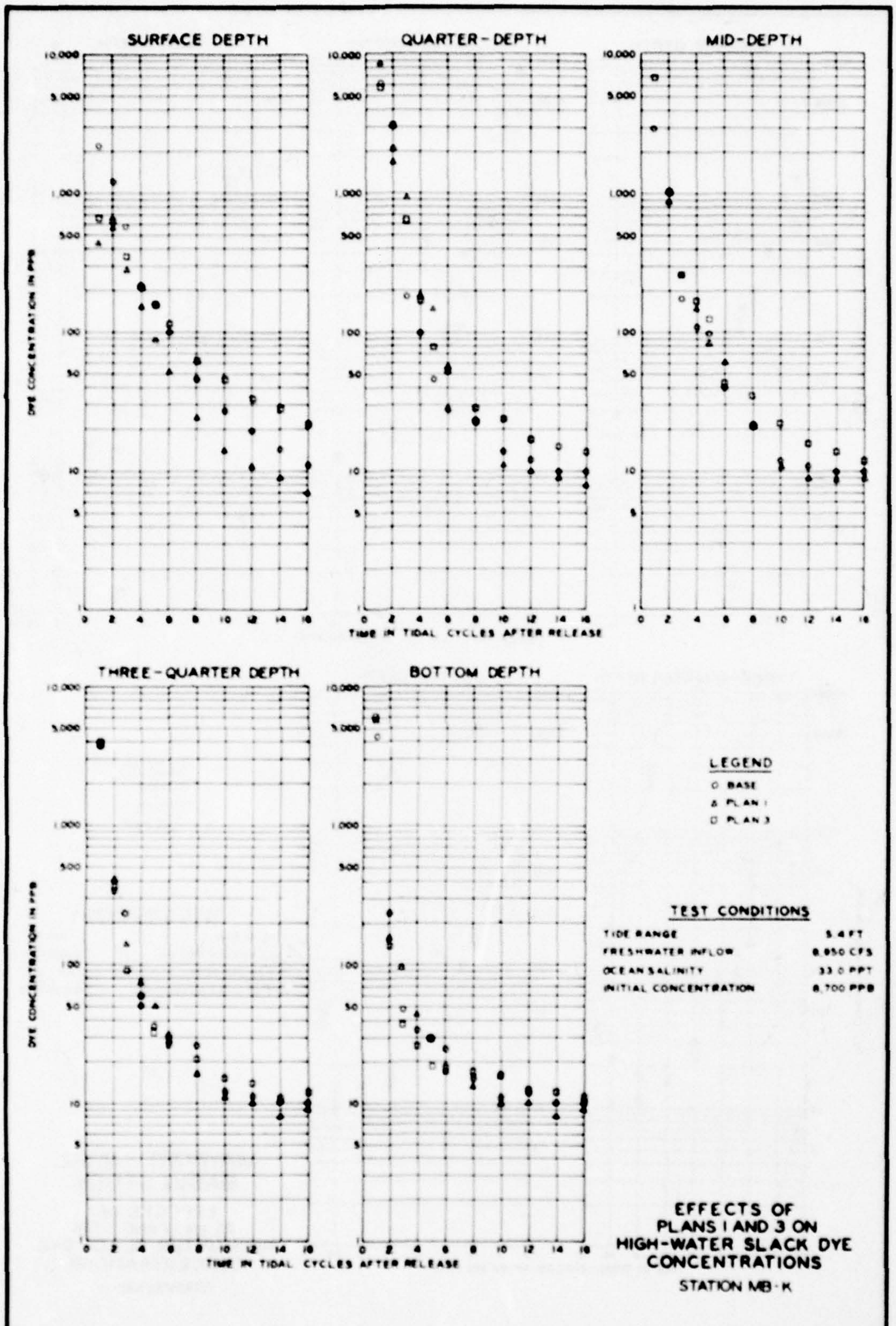

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
O BASE
▲ PLAN 1
□ PLAN 3
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS
STATION MB-H

PLATE 196

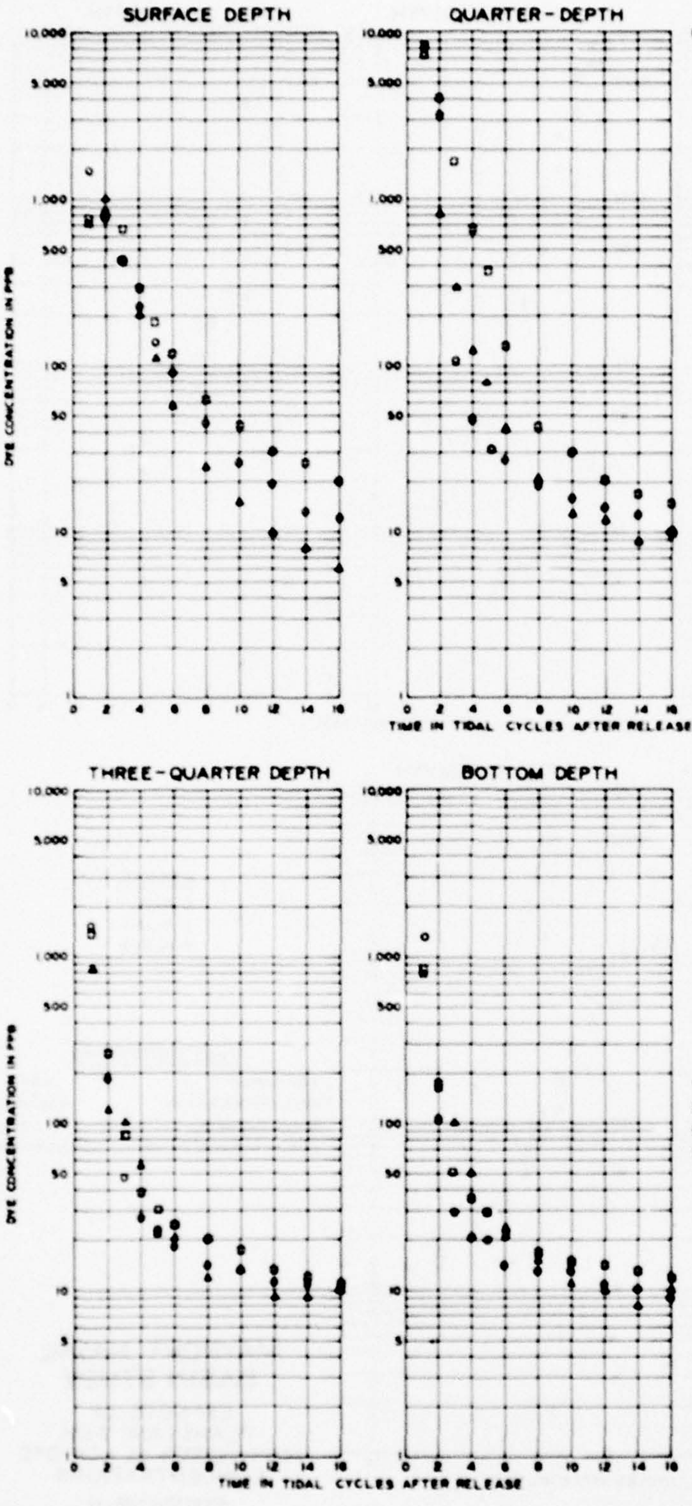

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
10,000
5,000
1,000
500
100
50
10
5
1
0 2 4 6 8 10 12 14 16
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
○ BASE
△ PLAN 1
□ PLAN 3
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,950 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS
STATION MB-J



EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-K

PLATE 198



LEGEND

○ BASE
△ PLAN 1
□ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-L

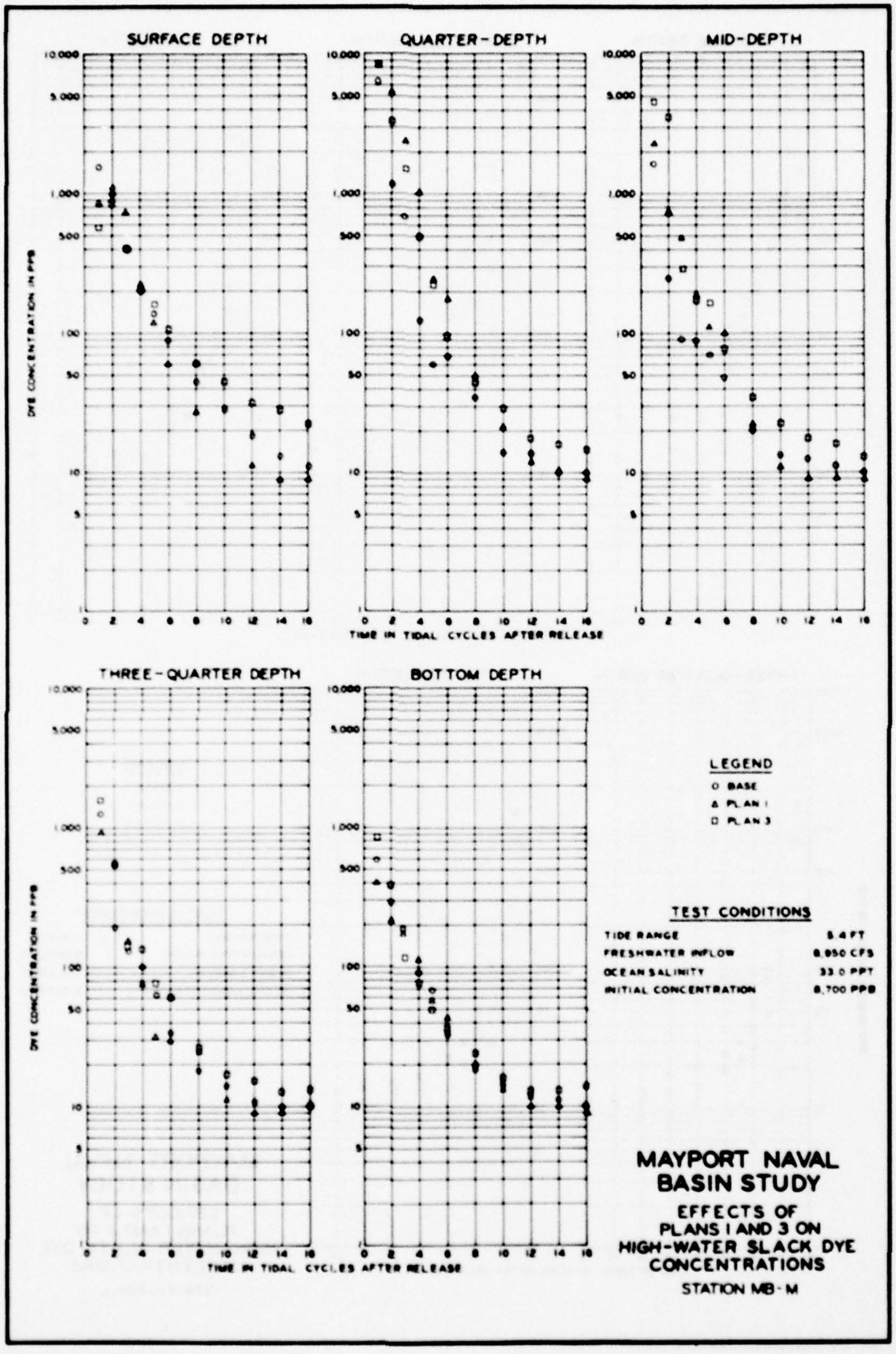
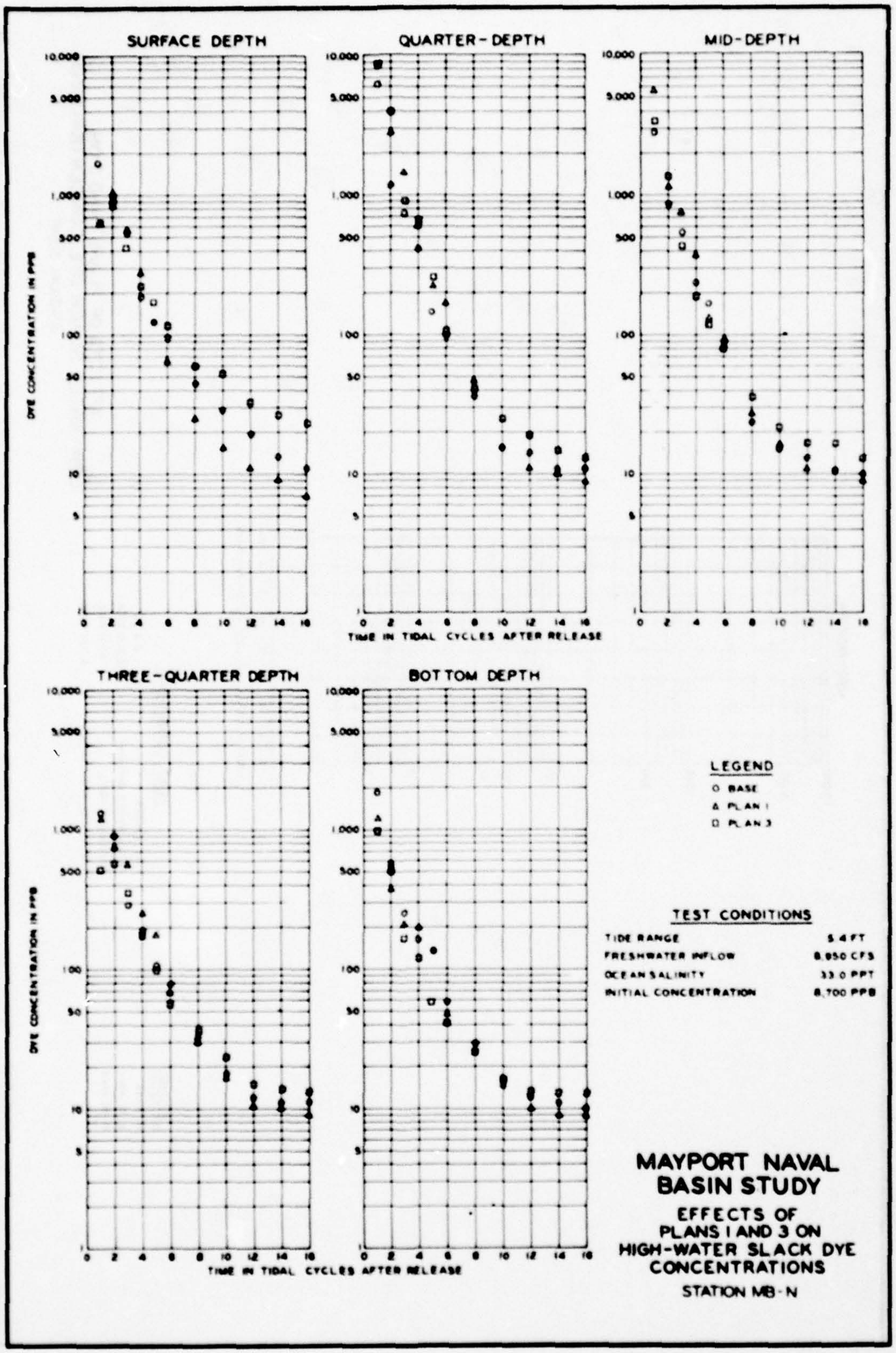

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
10,000
5,000
1,000
500
100
50
10
5
1
0 2 4 6 8 10 12 14 16
LEGEND
O BASE
△ PLAN 1
□ PLAN 3
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL
BASIN STUDY
EFFECTS OF
PLANS 1 AND 3 ON
HIGH-WATER SLACK DYE
CONCENTRATIONS
STATION MB-M

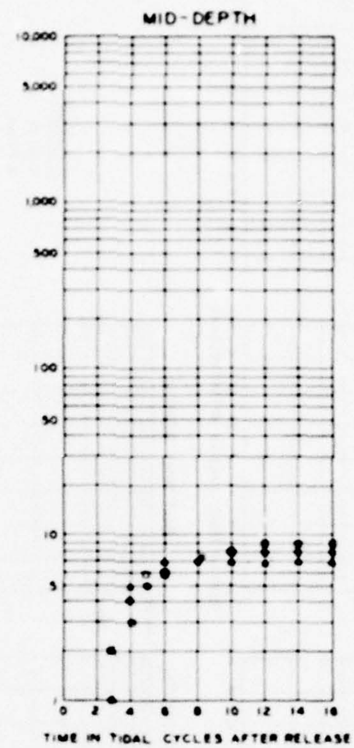
PLATE 200



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-N



LEGEND

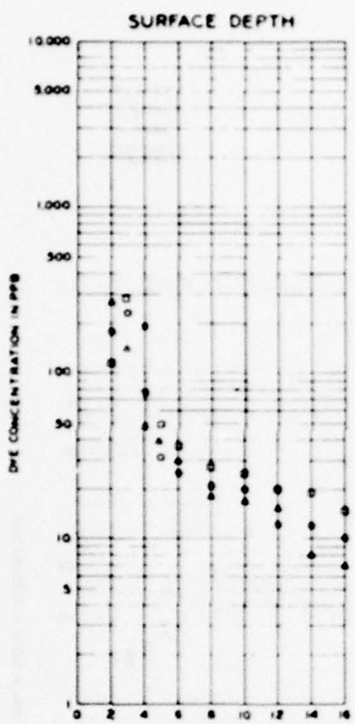
- O BASE
- Δ PLAN 1
- □ PLAN 3

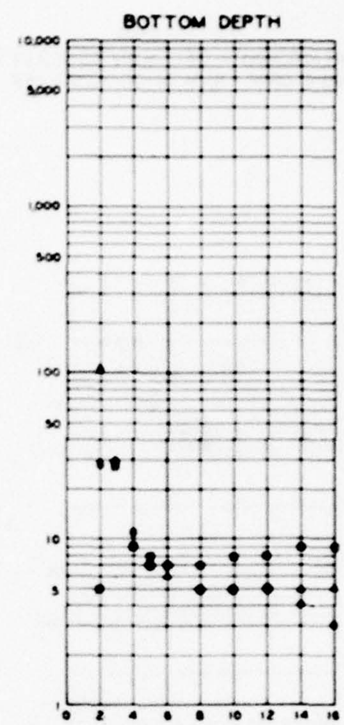
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION SUMP





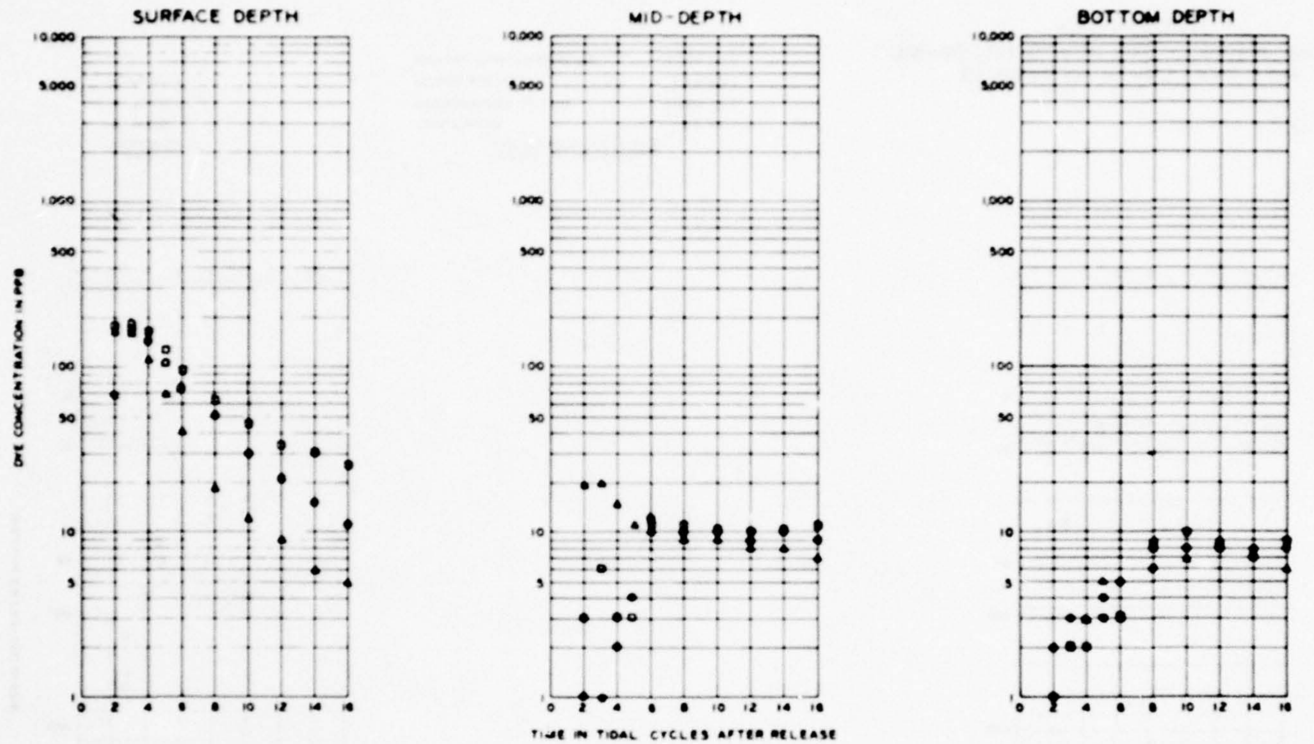
LEGEND

- O BASE
- ▲ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON
LOW-WATER SLACK DYE CONCENTRATIONS
STATION OCEAN



LEGEND

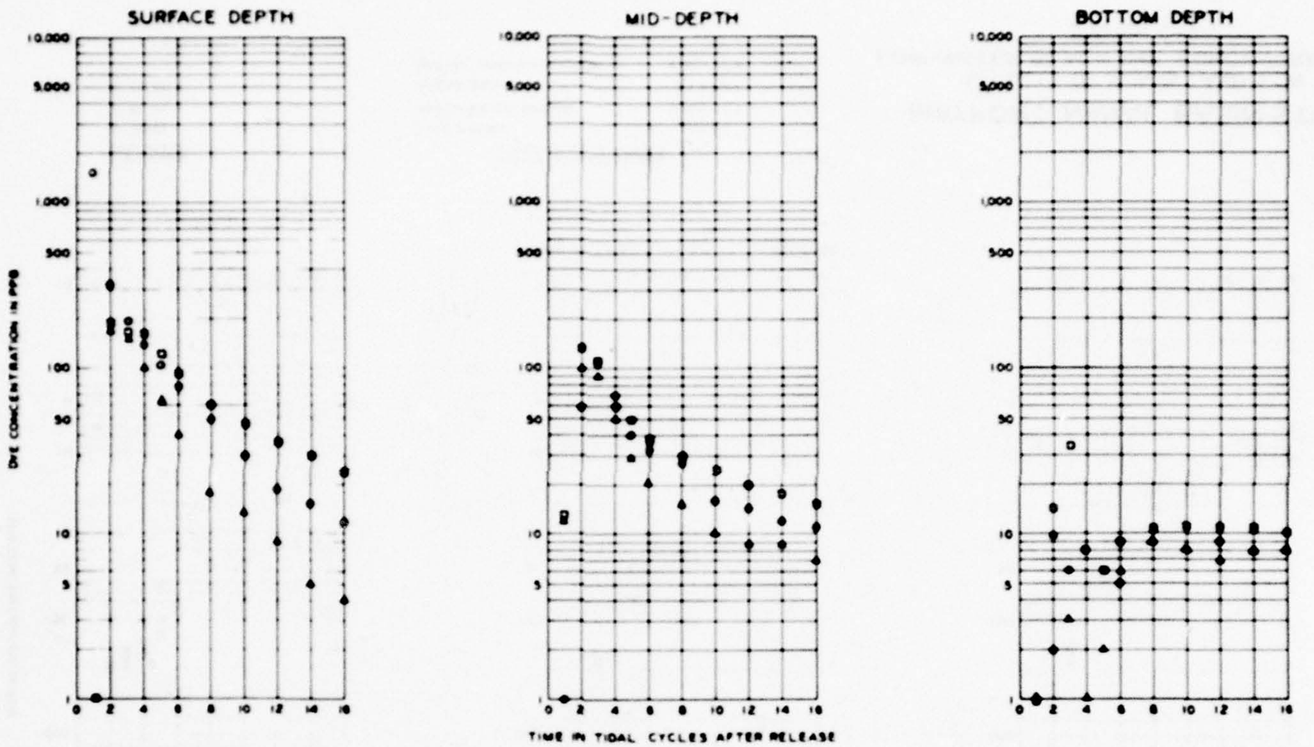
- ○ BASE
- △ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION Y-A



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

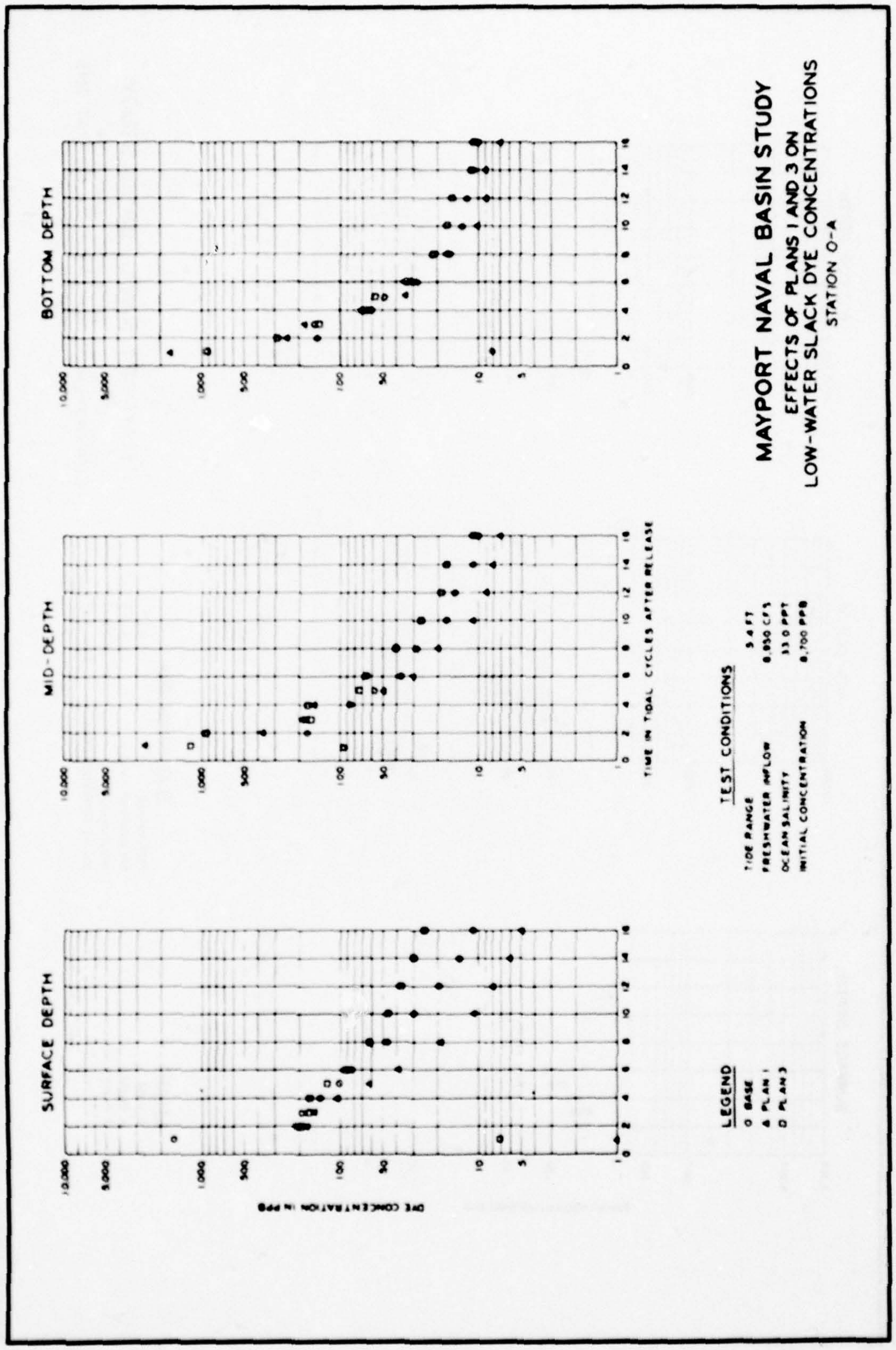
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

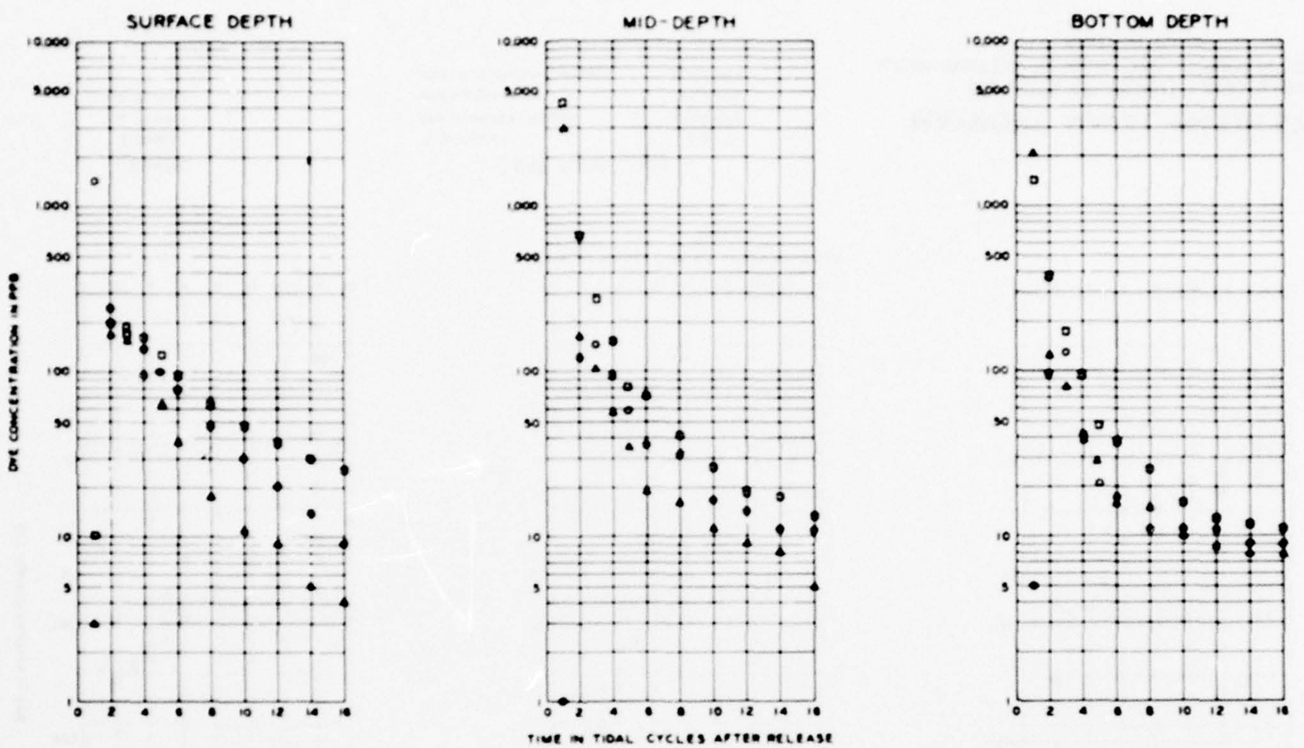
EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION Z-B



SURFACE DEPTH
MID-DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
10,000
5,000
1,000
500
100
50
10
5
1
0
2
4
6
8
10
12
14
16
LEGEND
O BASE
Δ PLAN 1
□ PLAN 3
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 1 AND 3 ON
LOW-WATER SLACK DYE CONCENTRATIONS
STATION O-A

PLATE 206



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

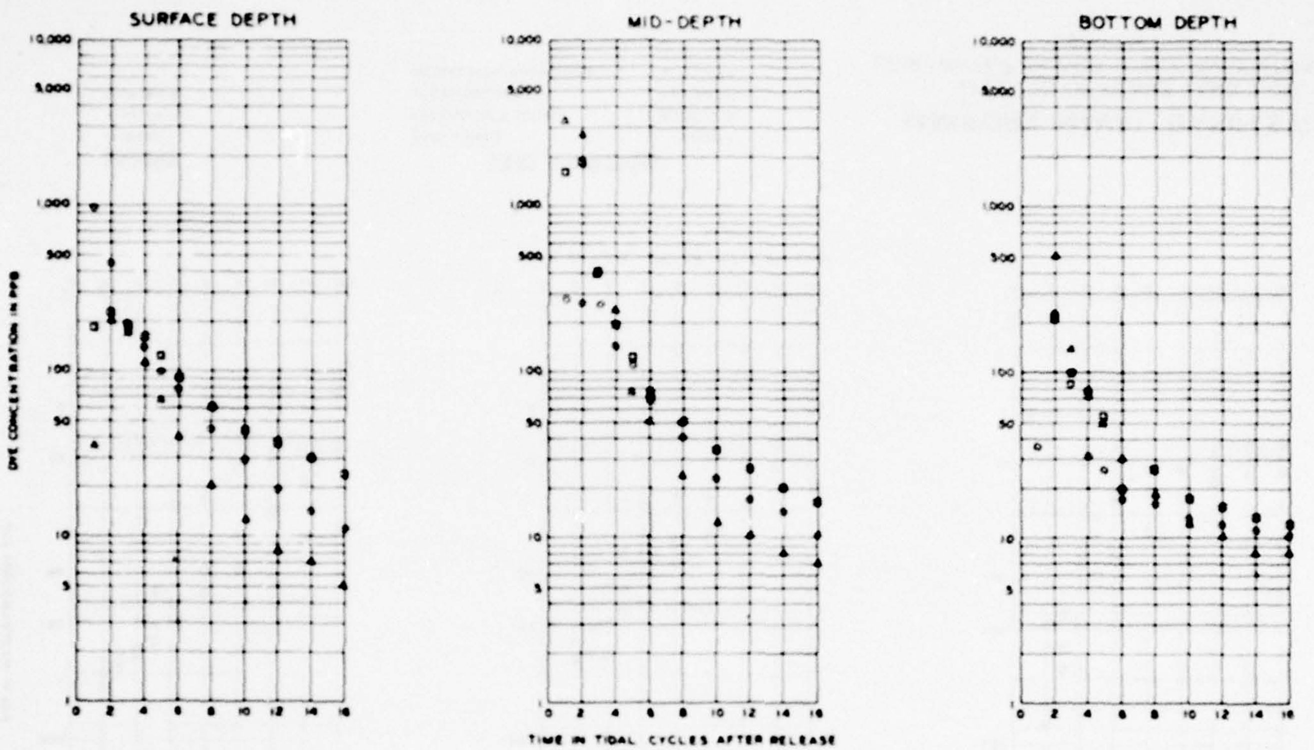
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION O-B



LEGEND

○ BASE
△ PLAN 1
□ PLAN 3

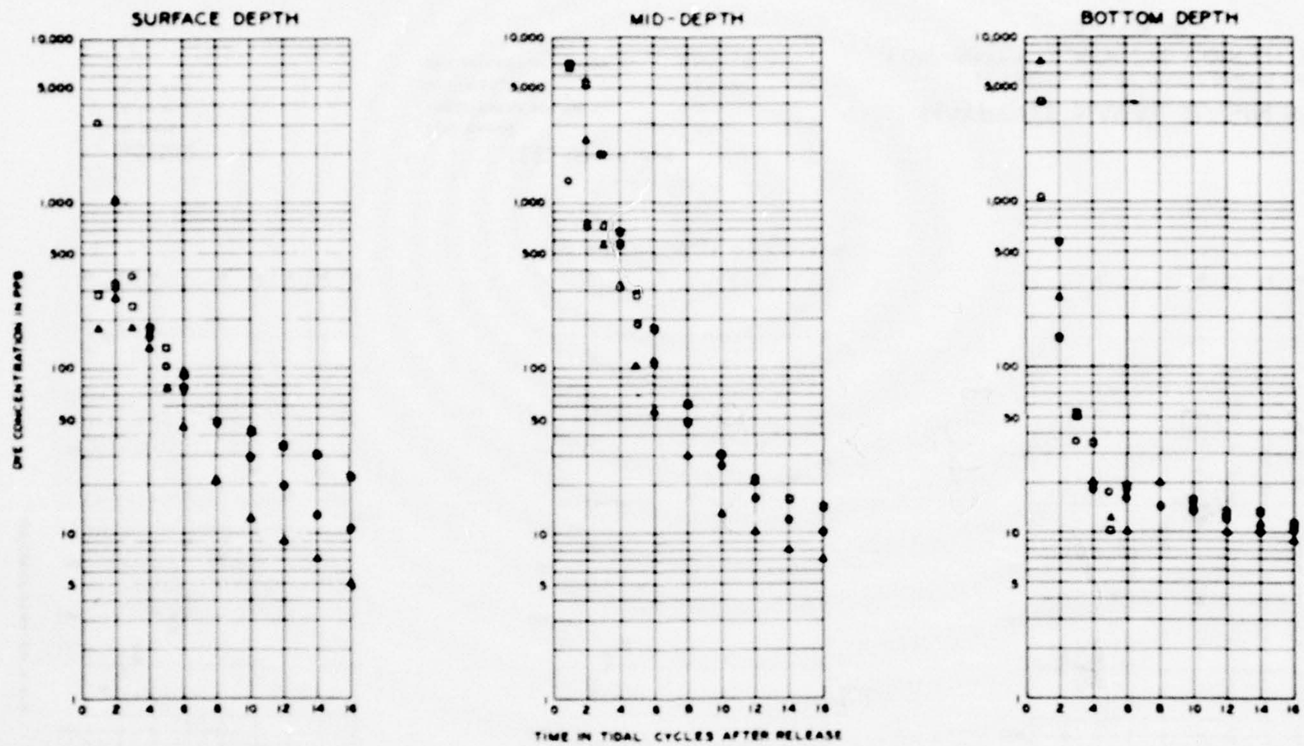
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION OA-A



LEGEND

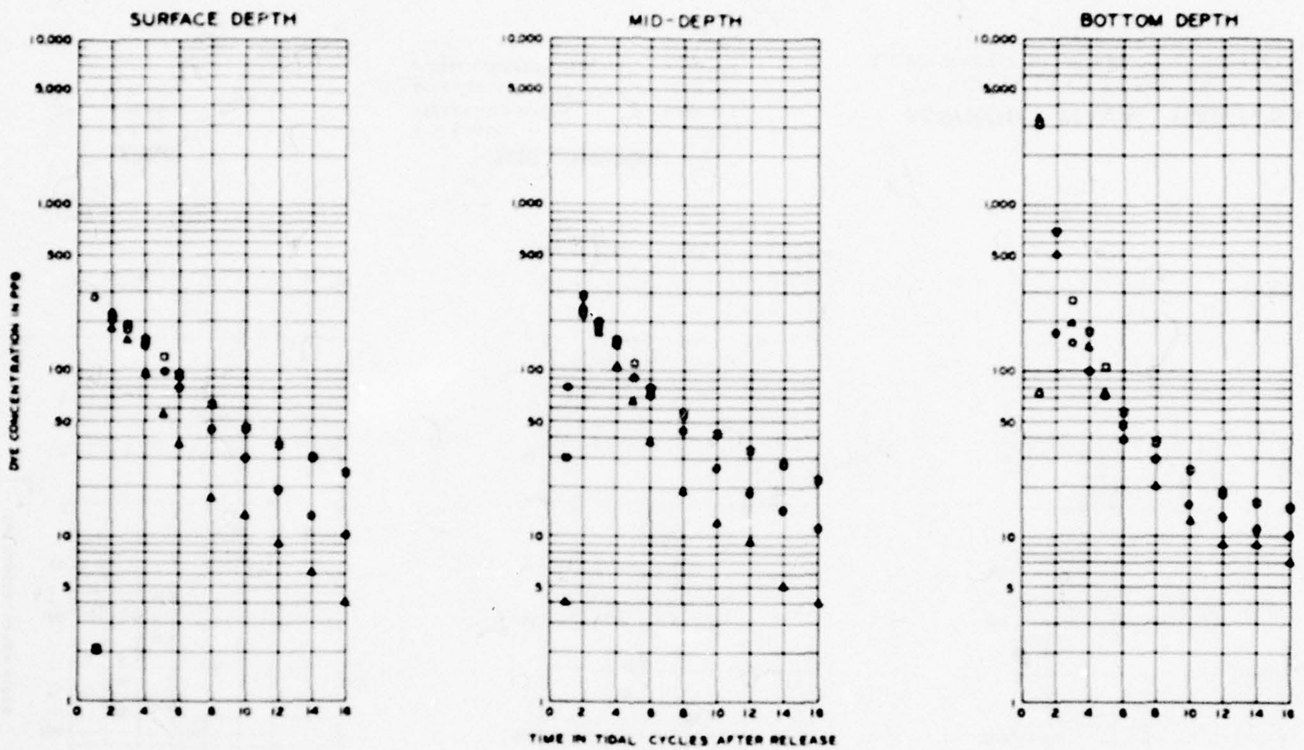
- O BASE
- ▲ PLAN 1
- ◻ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
LOW-WATER SLACK DYE CONCENTRATIONS
STATION OB-A



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

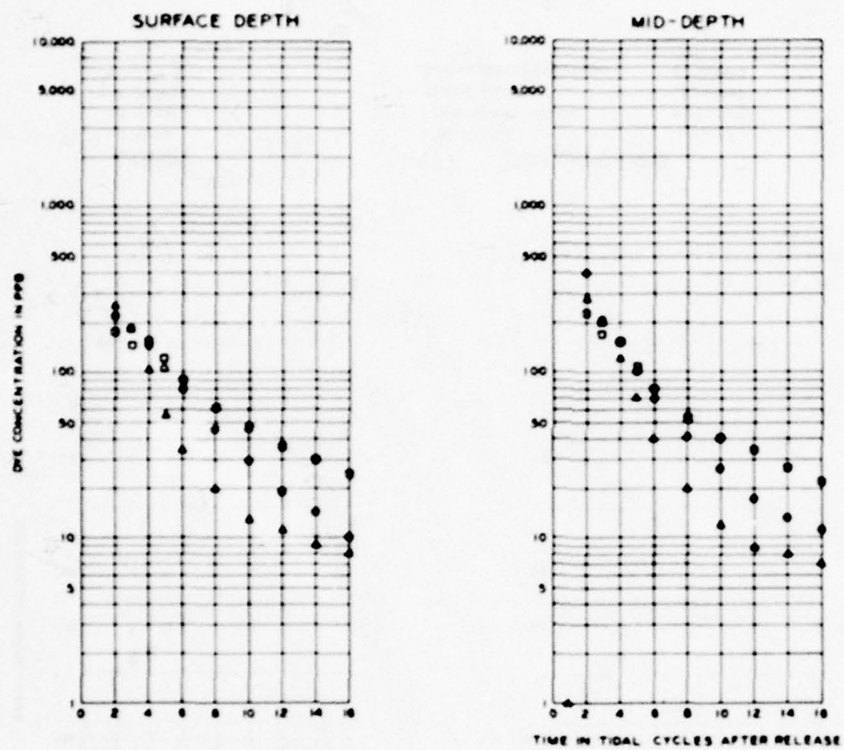
TEST CONDITIONS

TIDE RANGE	3.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
LOW-WATER SLACK DYE CONCENTRATIONS
STATION OB-C

PLATE 210



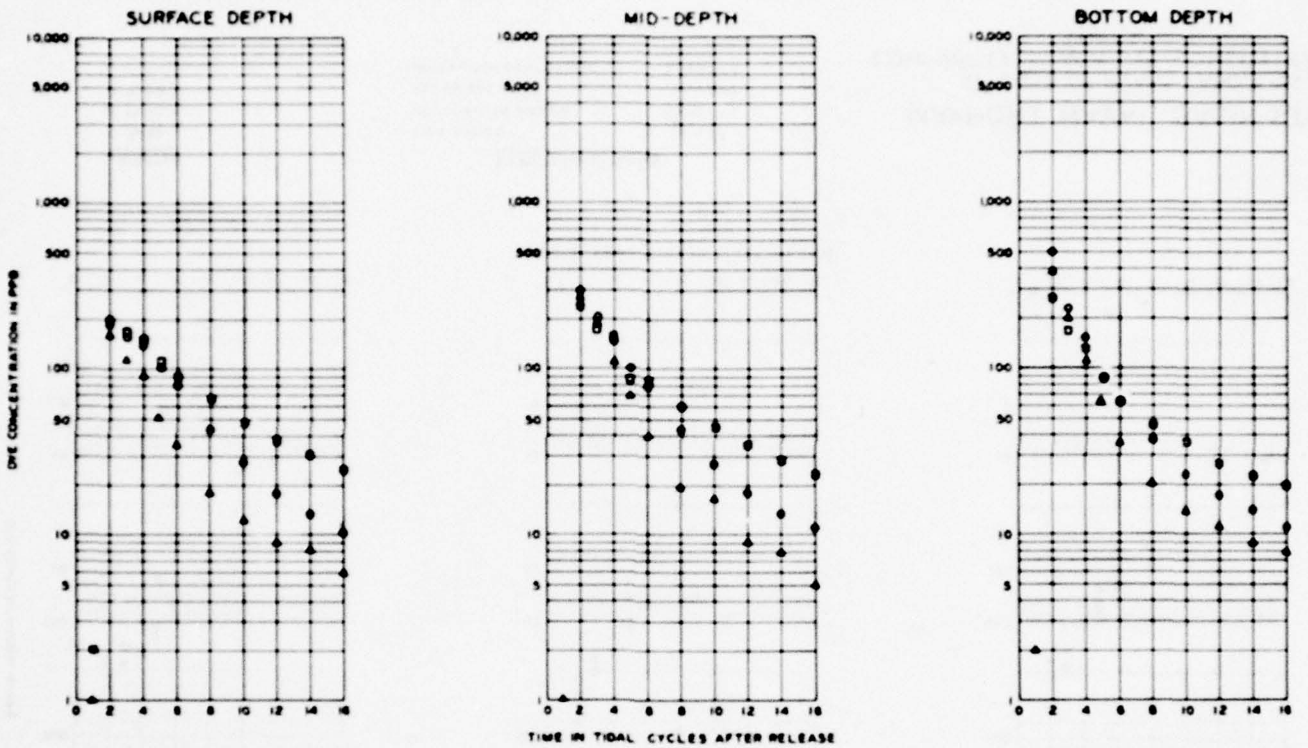
LEGEND
- ○ BASE
- △ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
LOW-WATER SLACK DYE CONCENTRATIONS
STATION 1A-B



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

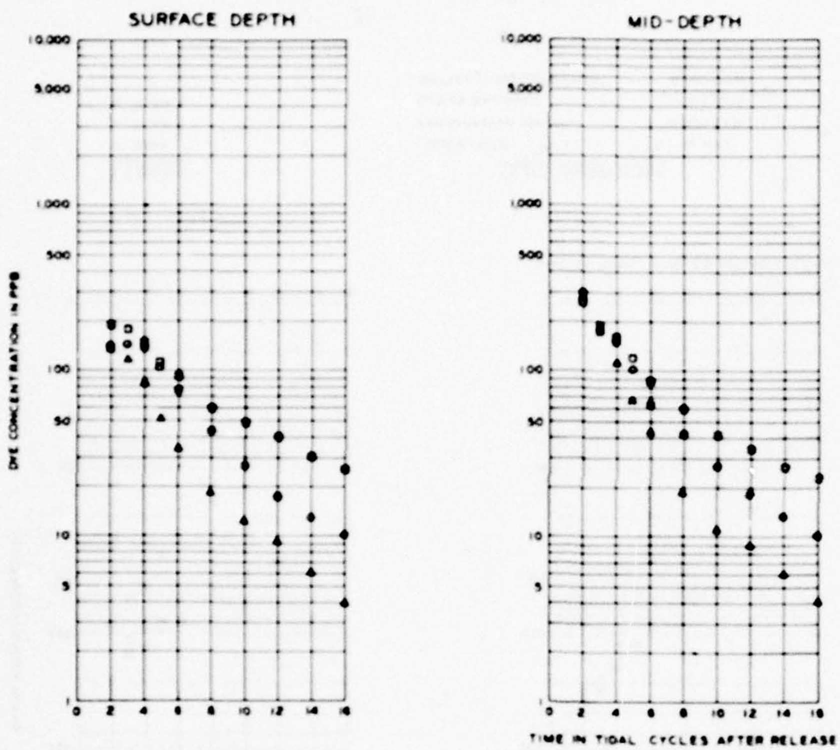
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 2A-A



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

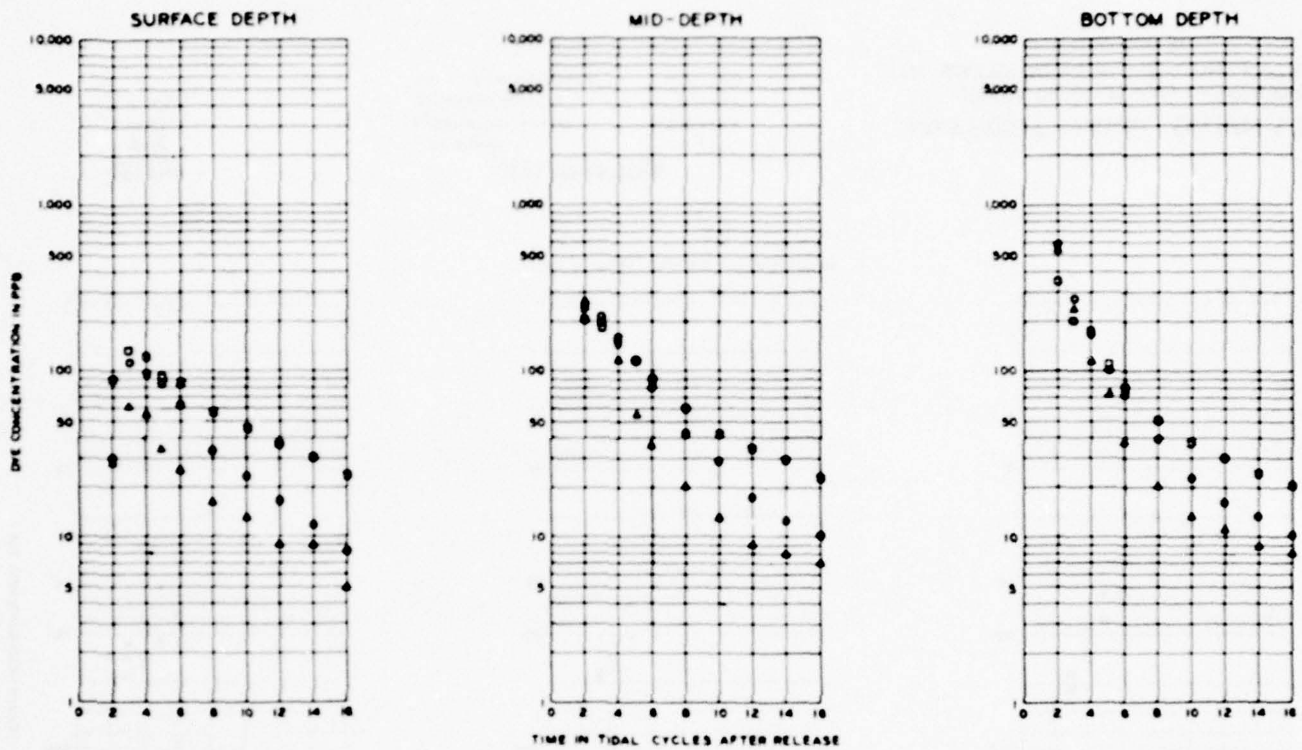
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 3A



LEGEND

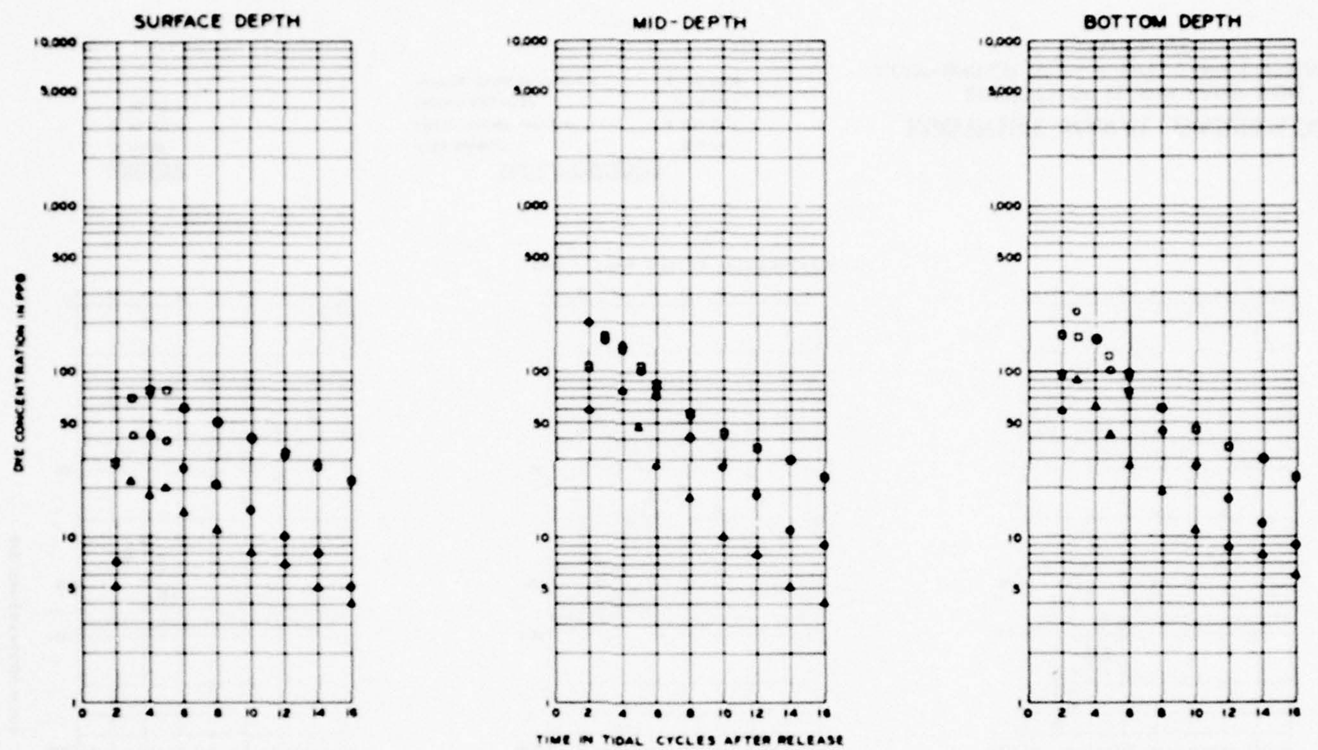
○ BASE
△ PLAN 1
□ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
LOW-WATER SLACK DYE CONCENTRATIONS
STATION 5A



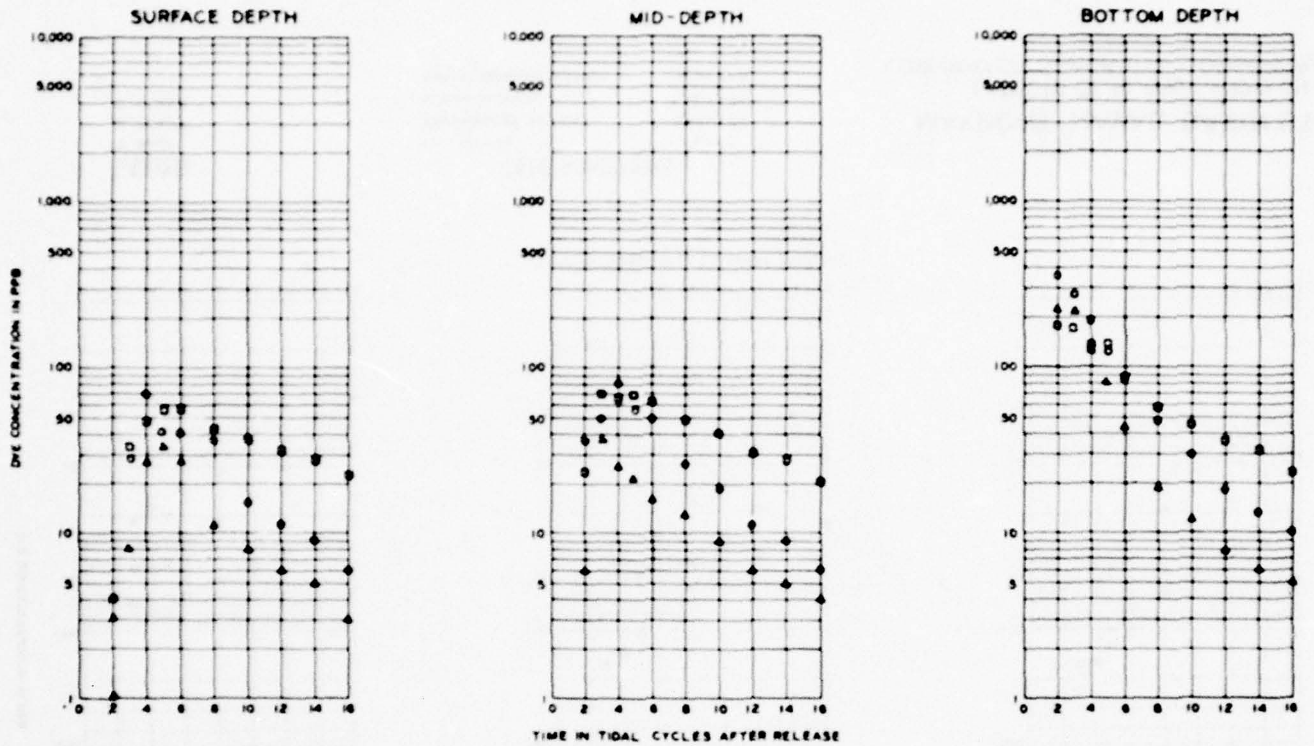
LEGEND
- O BASE
- ▲ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON
LOW-WATER SLACK DYE CONCENTRATIONS
STATION 7B



LEGEND
- O BASE
- △ PLAN 1
- □ PLAN 3

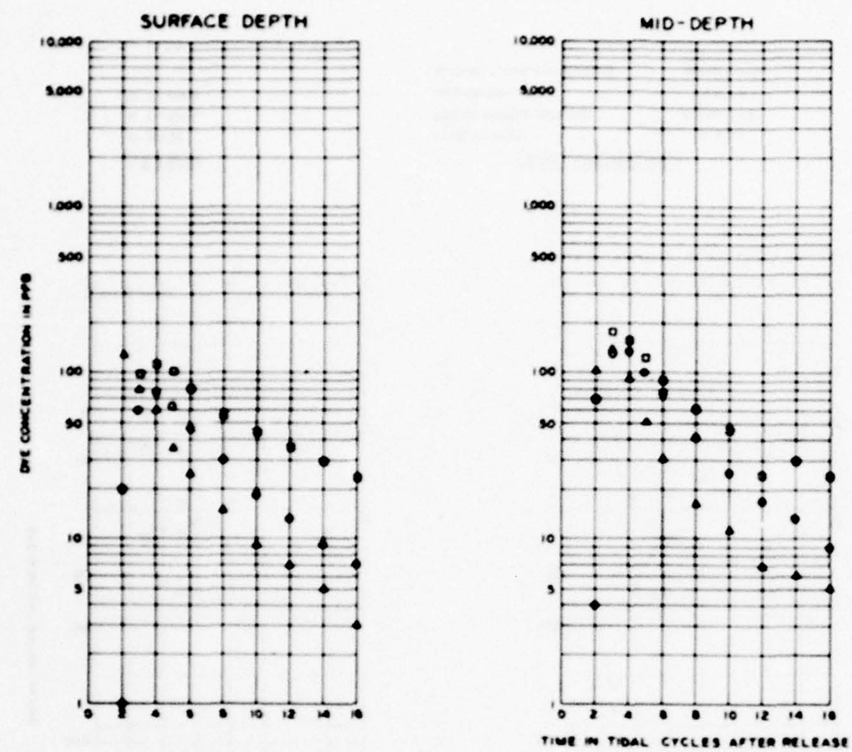
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 9B



LEGEND

- O BASE
- △ PLAN 1
- □ PLAN 3

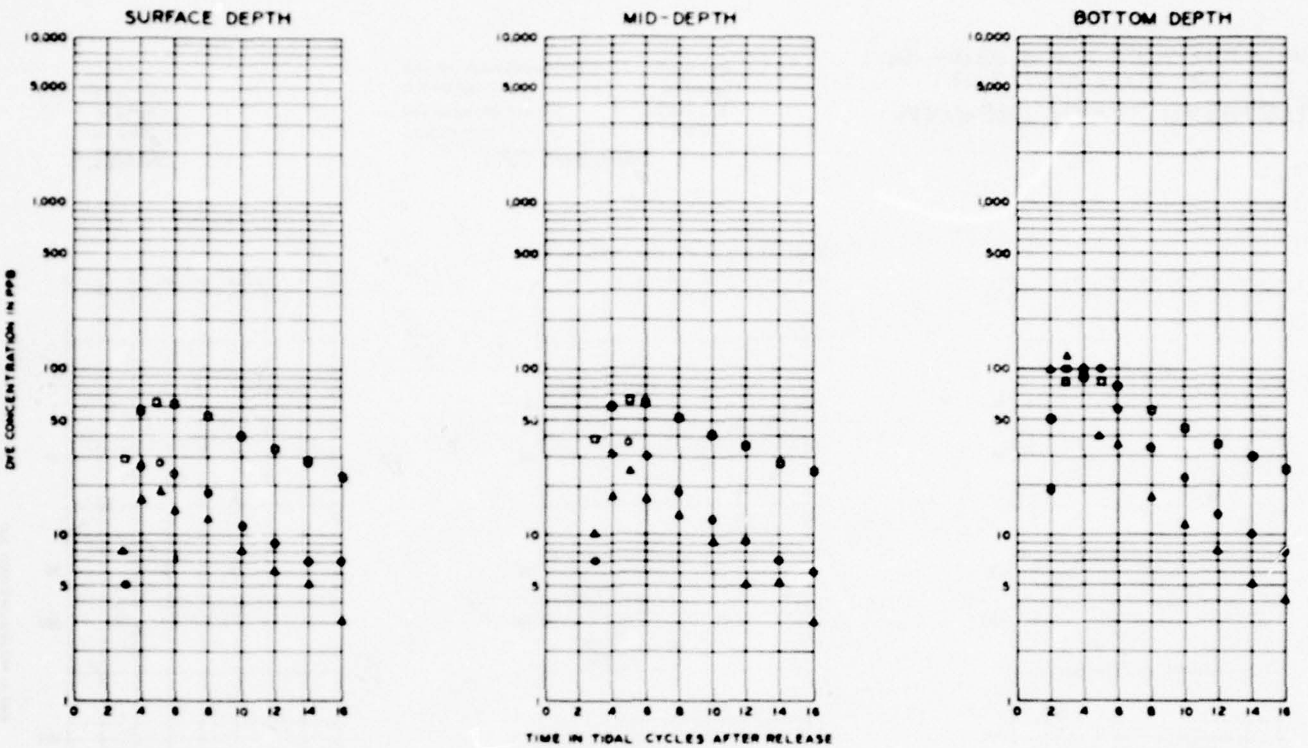
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 9A-B



LEGEND

- O BASE
- ▲ PLAN 1
- □ PLAN 3

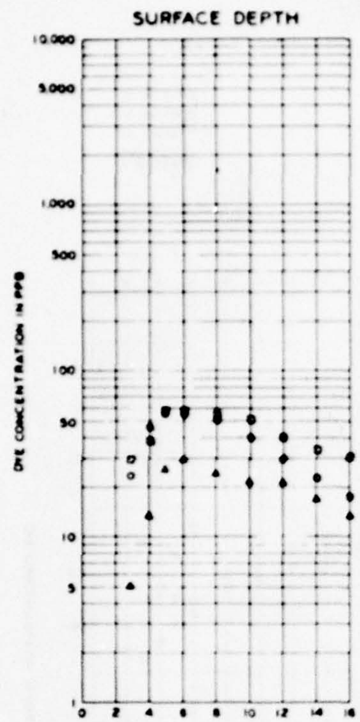
TEST CONDITIONS

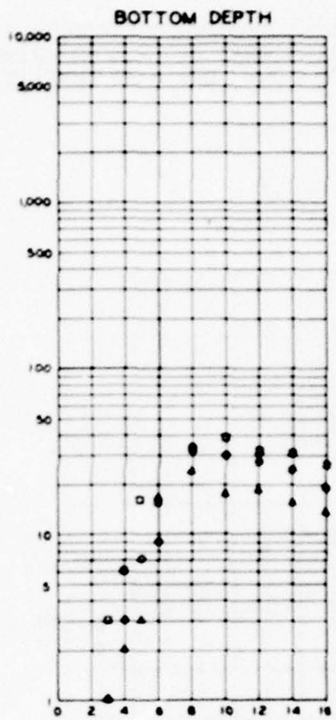
TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 10-A





LEGEND

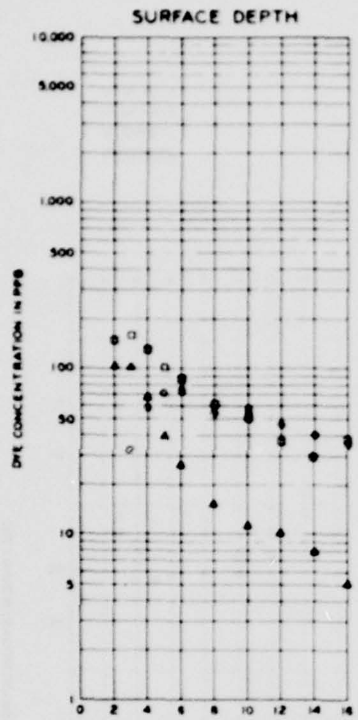
- O BASE
- Δ PLAN 1
- □ PLAN 3

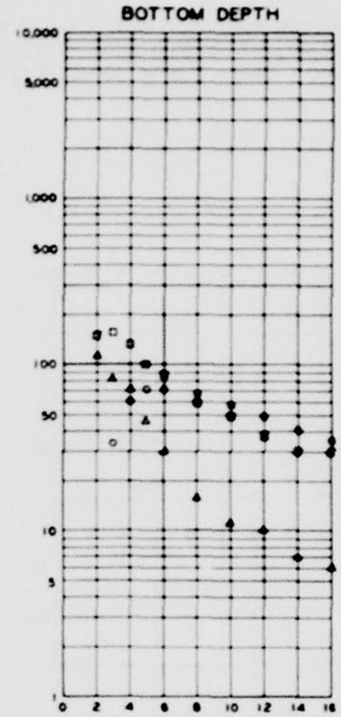
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION INTRACOASTAL WATERWAY-NORTH (IW-N)





LEGEND

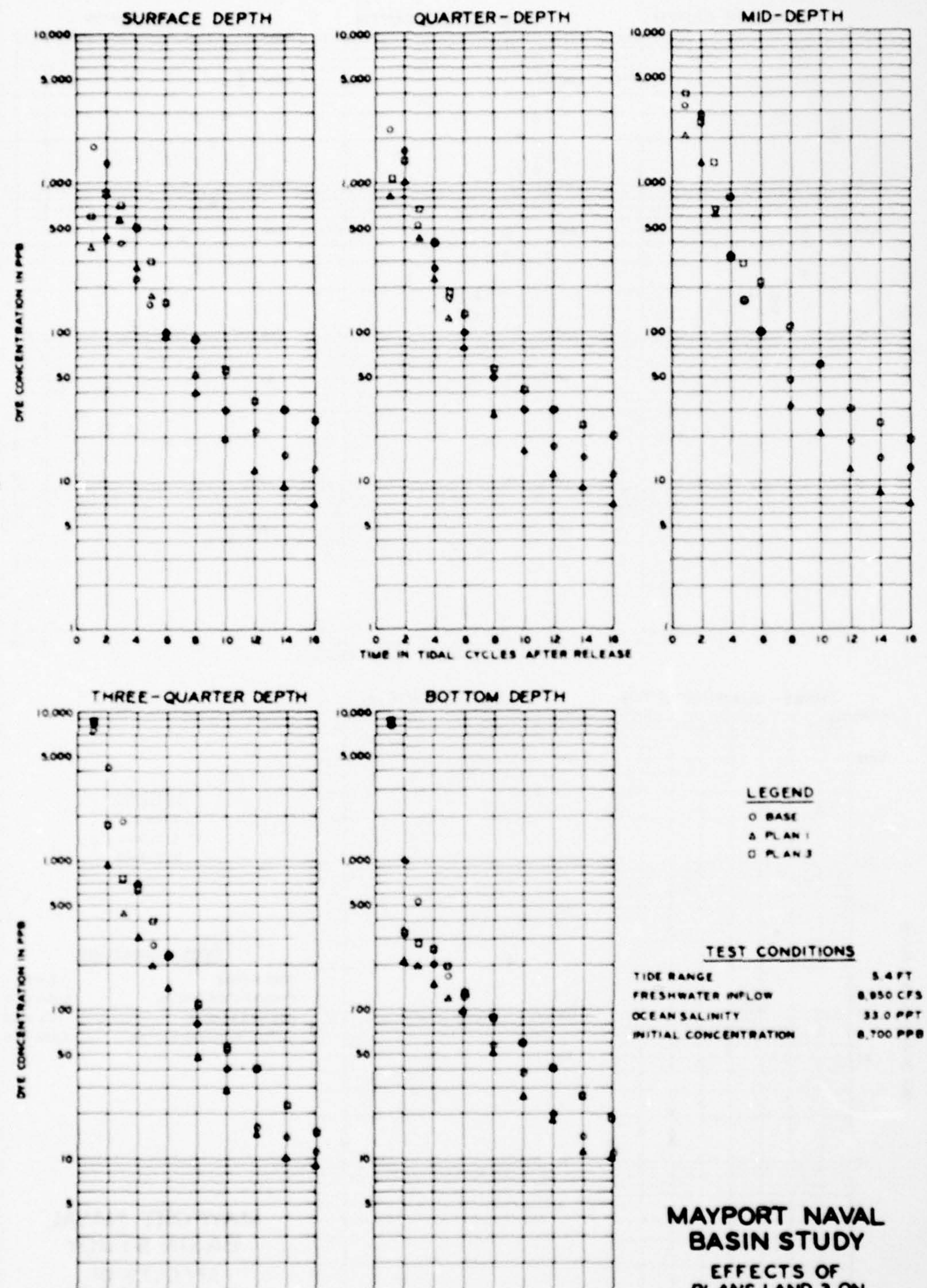
- O BASE
- Δ PLAN 1
- □ PLAN 3

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION INTRACOASTAL WATERWAY-SOUTH (IW-S)



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-A

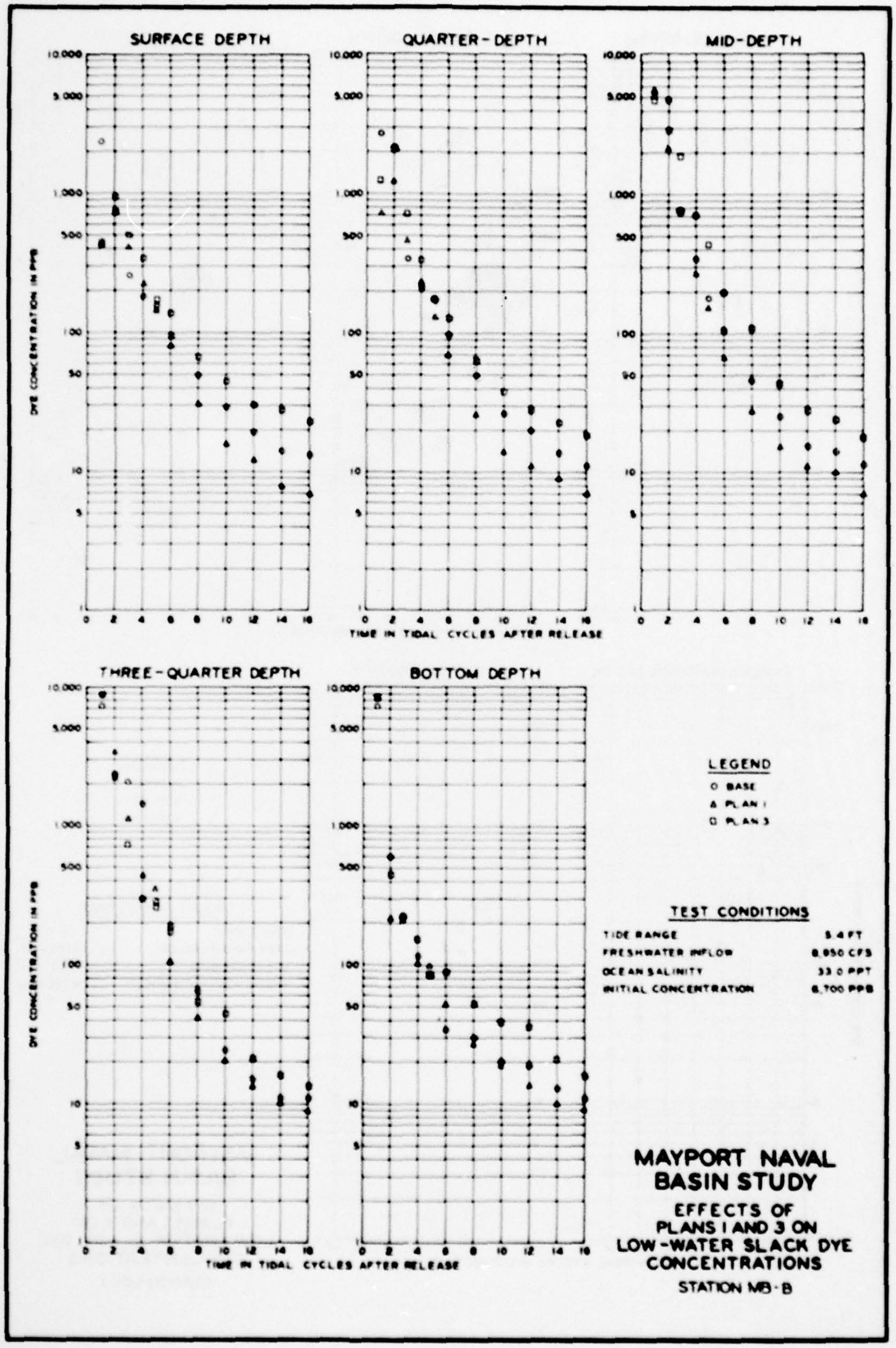
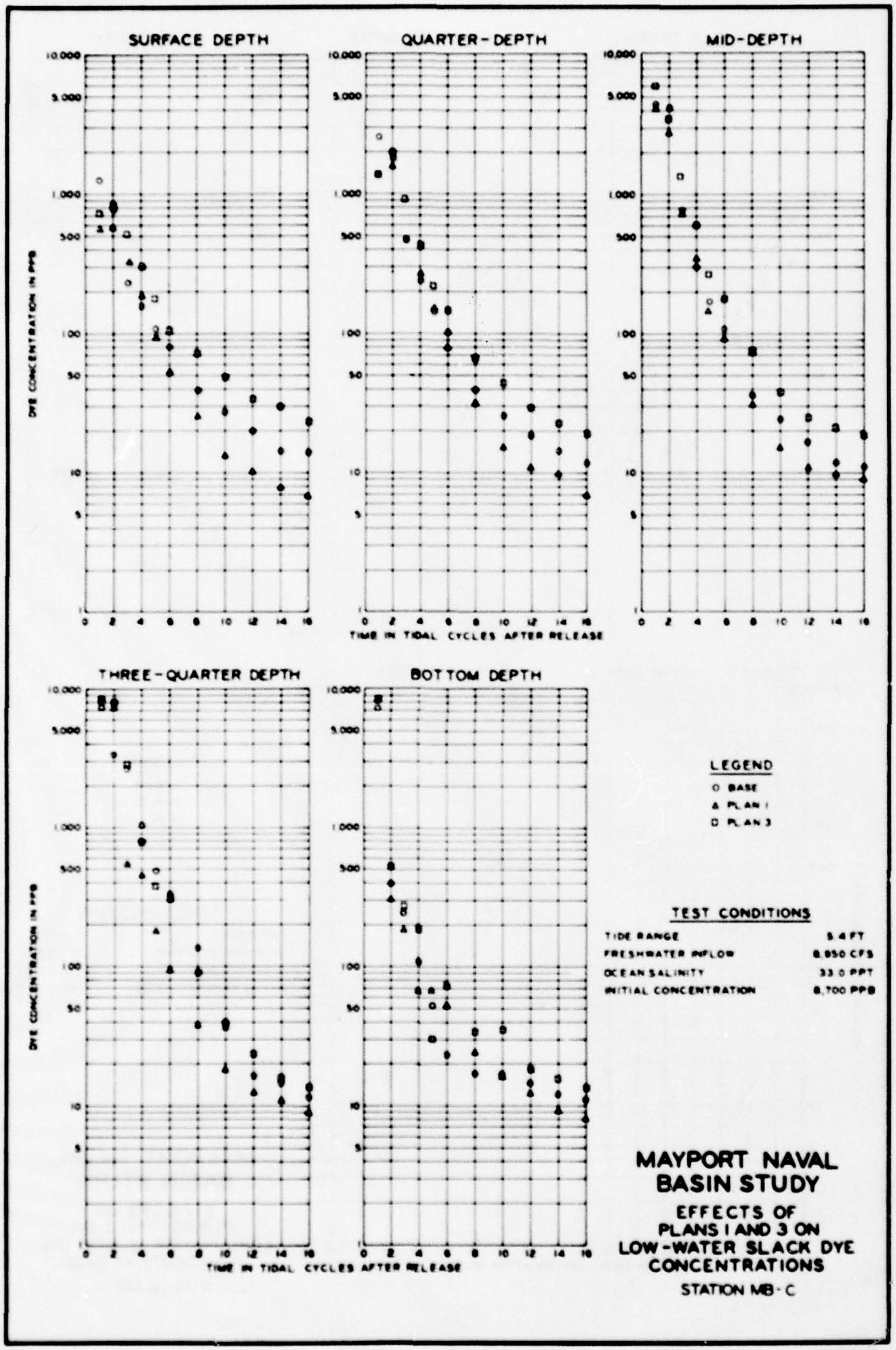
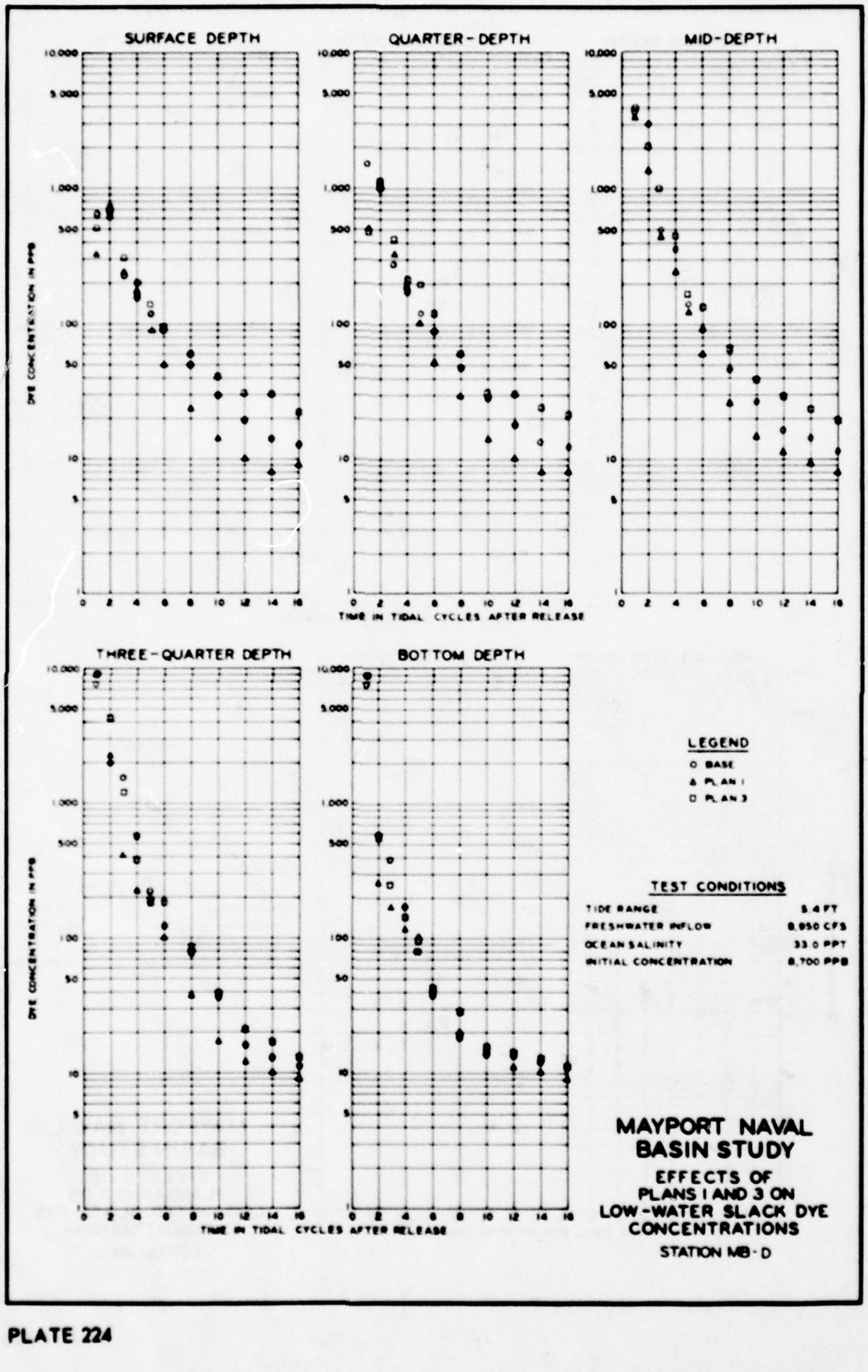

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
O BASE
△ PLAN 1
□ PLAN 3
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS
STATION MB-B

PLATE 222

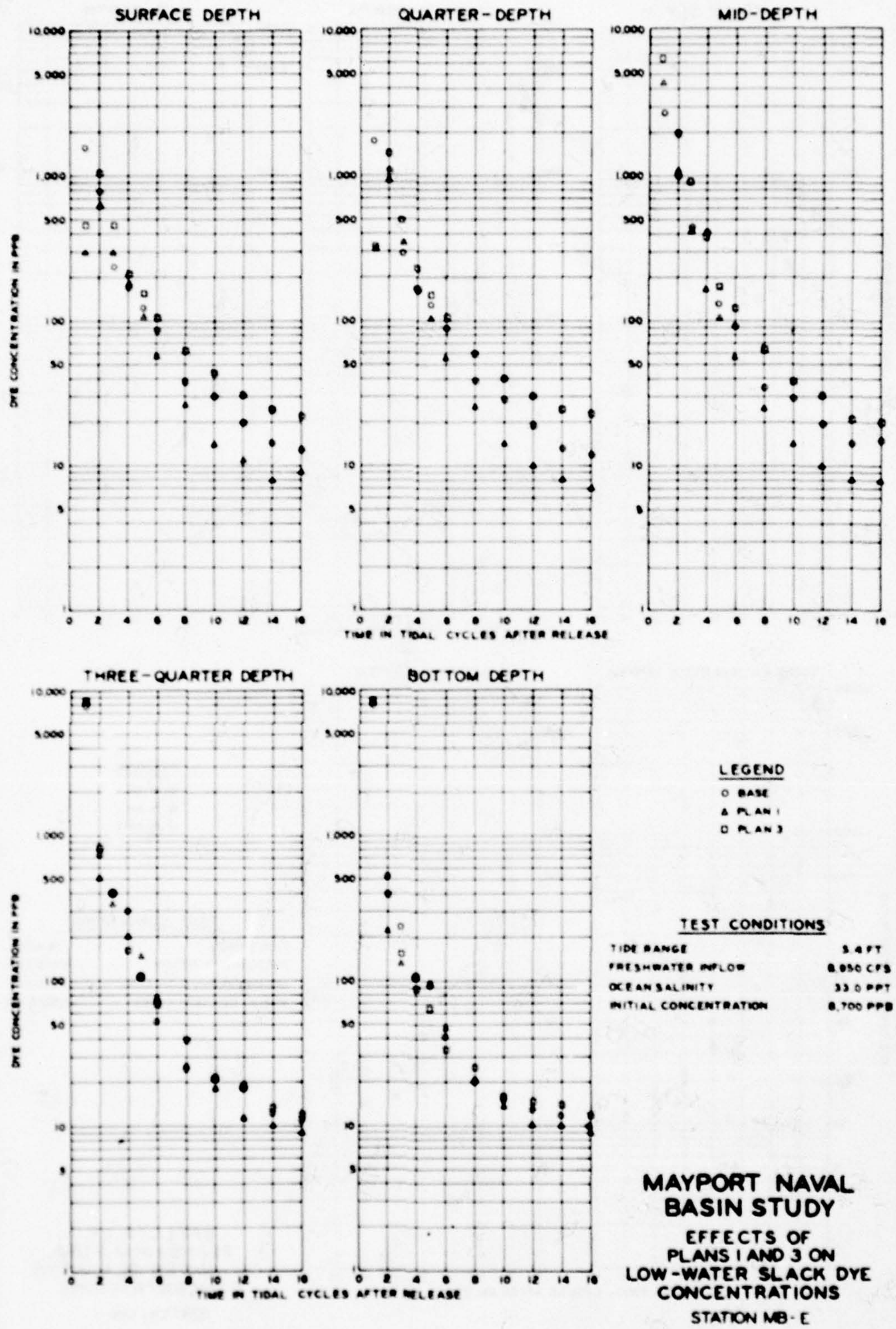

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
O BASE
△ PLAN 1
□ PLAN 3
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL
BASIN STUDY
EFFECTS OF
PLANS 1 AND 3 ON
LOW-WATER SLACK DYE
CONCENTRATIONS
STATION MB-C



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-D



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-E

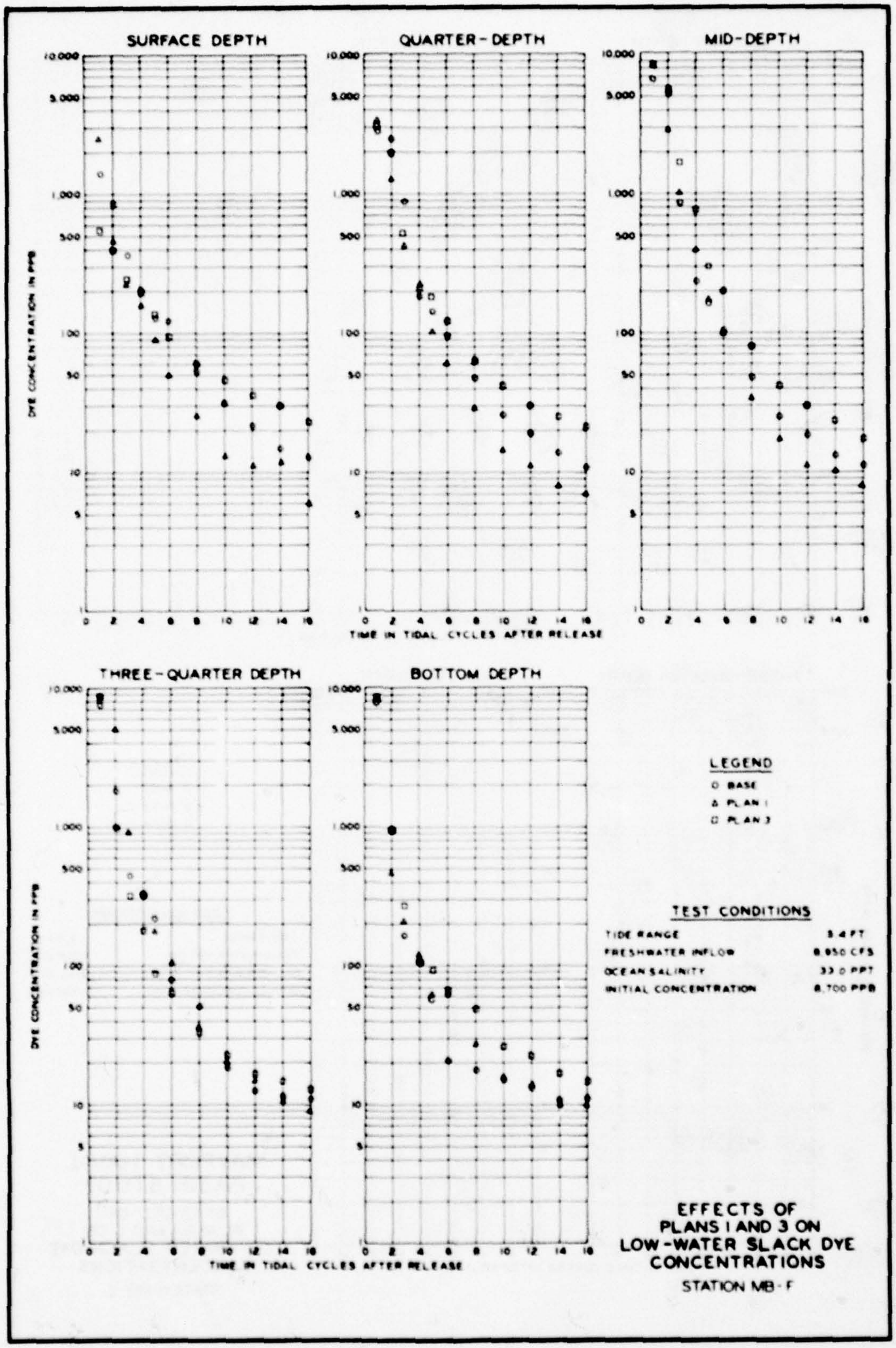
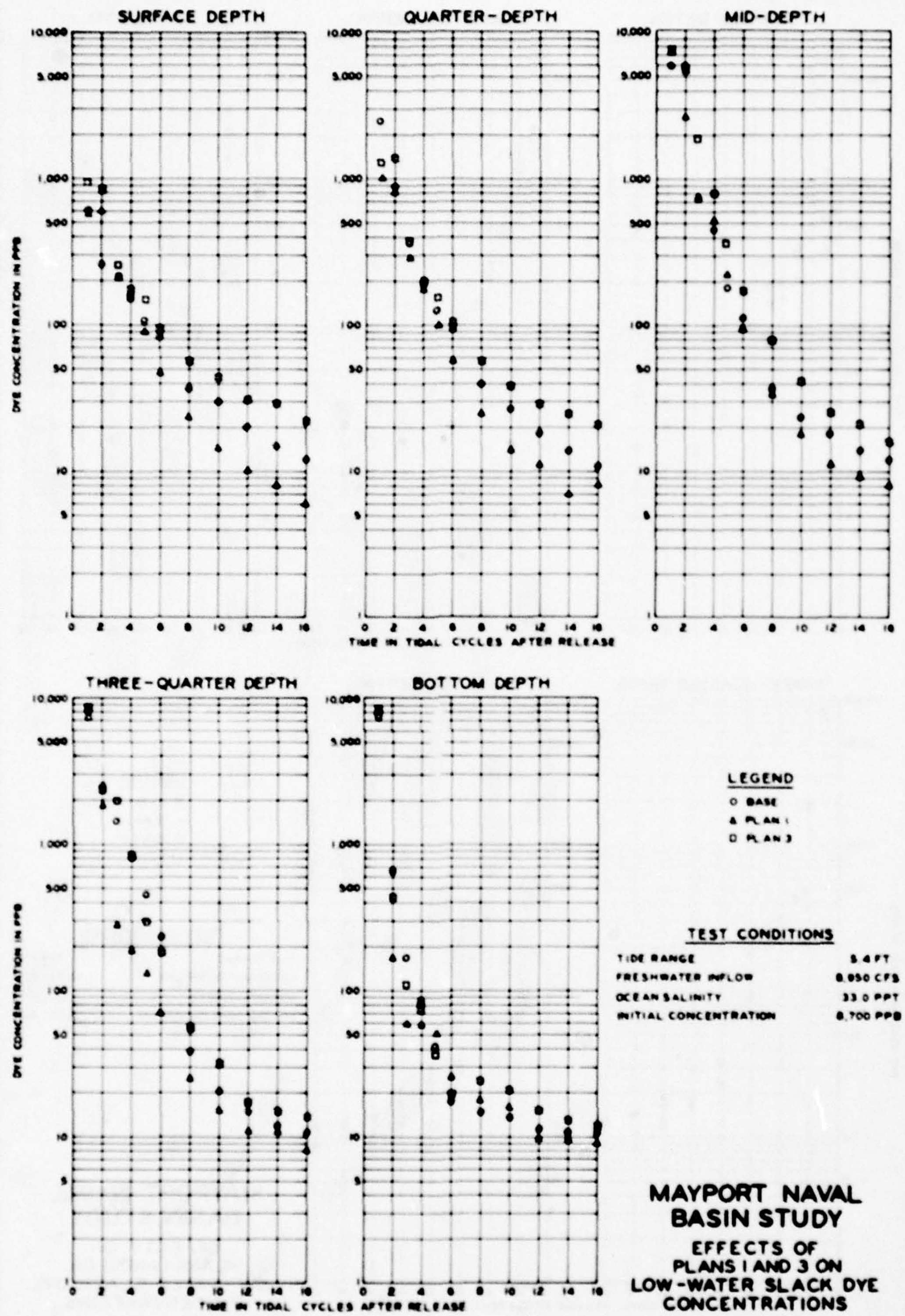

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
BASE
PLAN 1
PLAN 3
TEST CONDITIONS
TIDE RANGE
FRESHWATER INFLOW
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
EFFECTS OF
PLANS 1 AND 3 ON
LOW-WATER SLACK DYE
CONCENTRATIONS
STATION MB-F

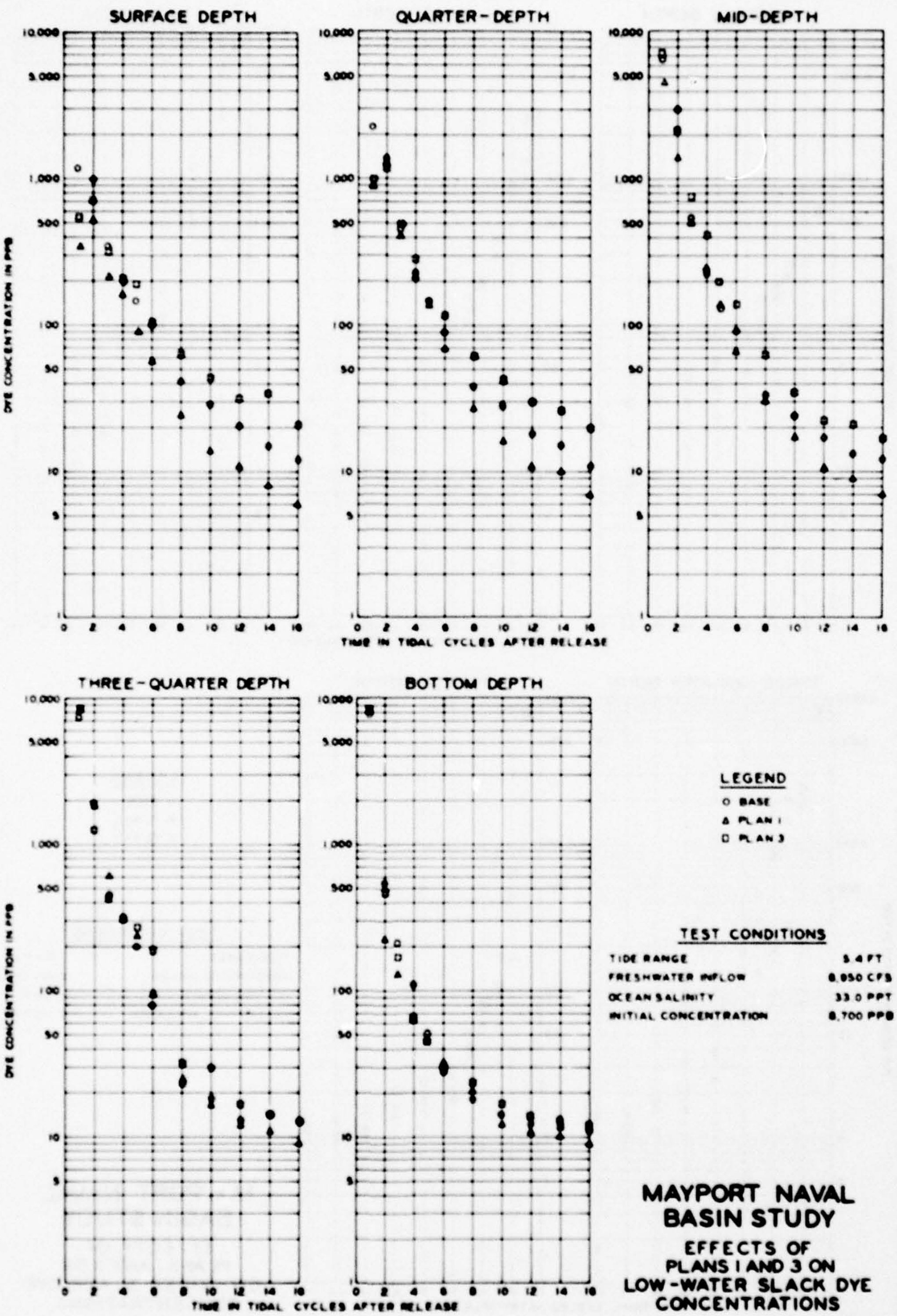
PLATE 226



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-G



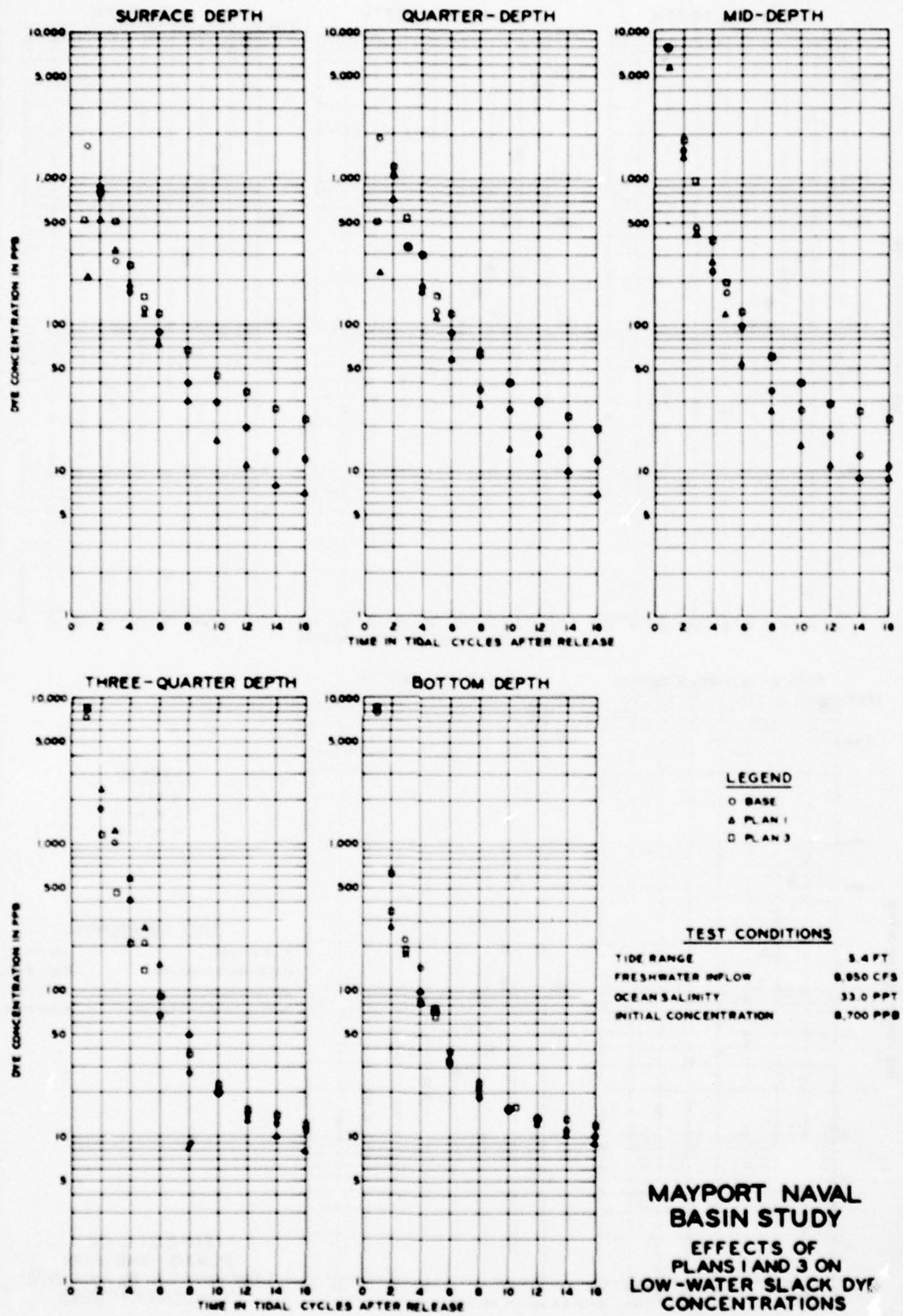
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-H



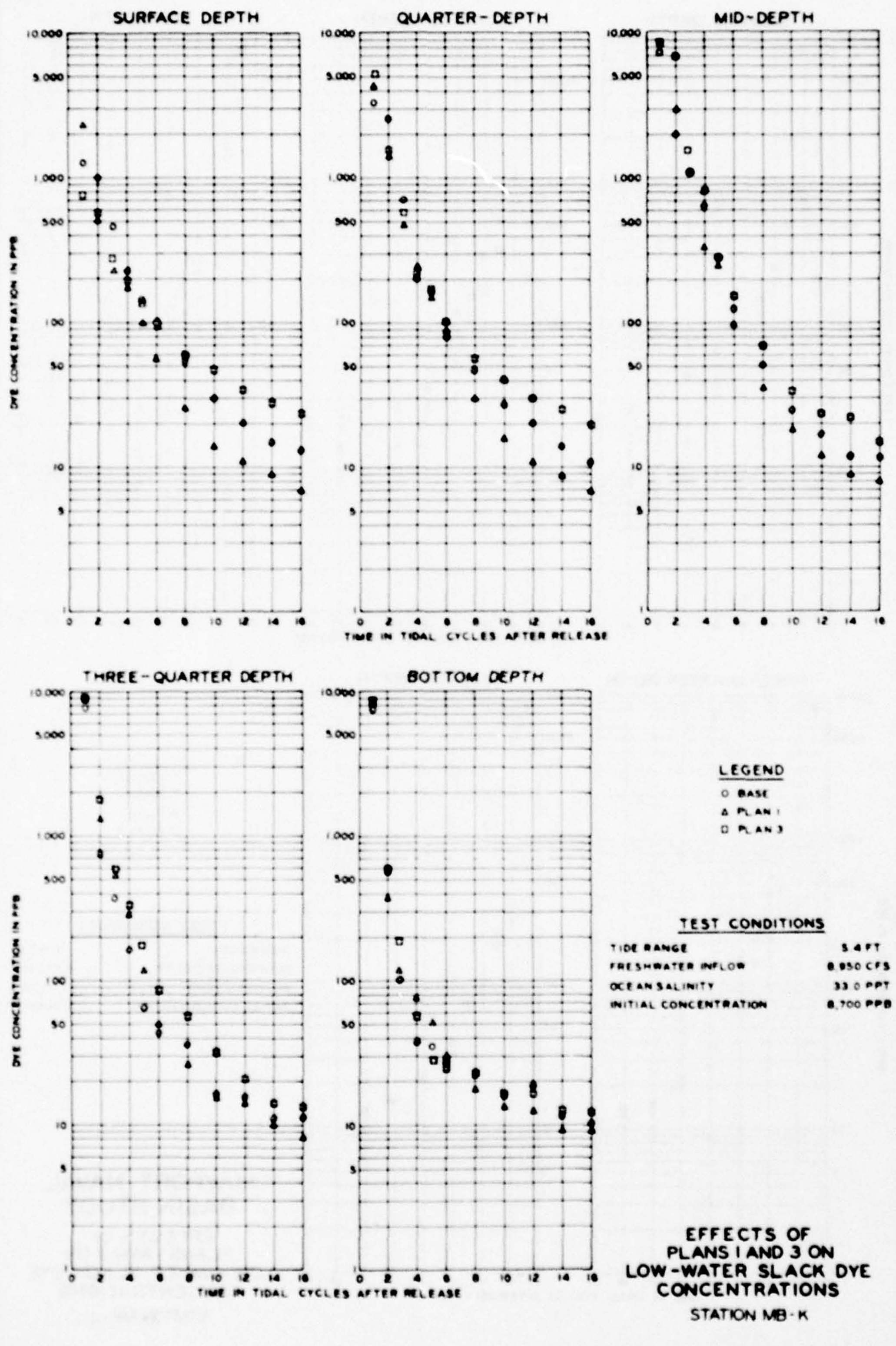
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

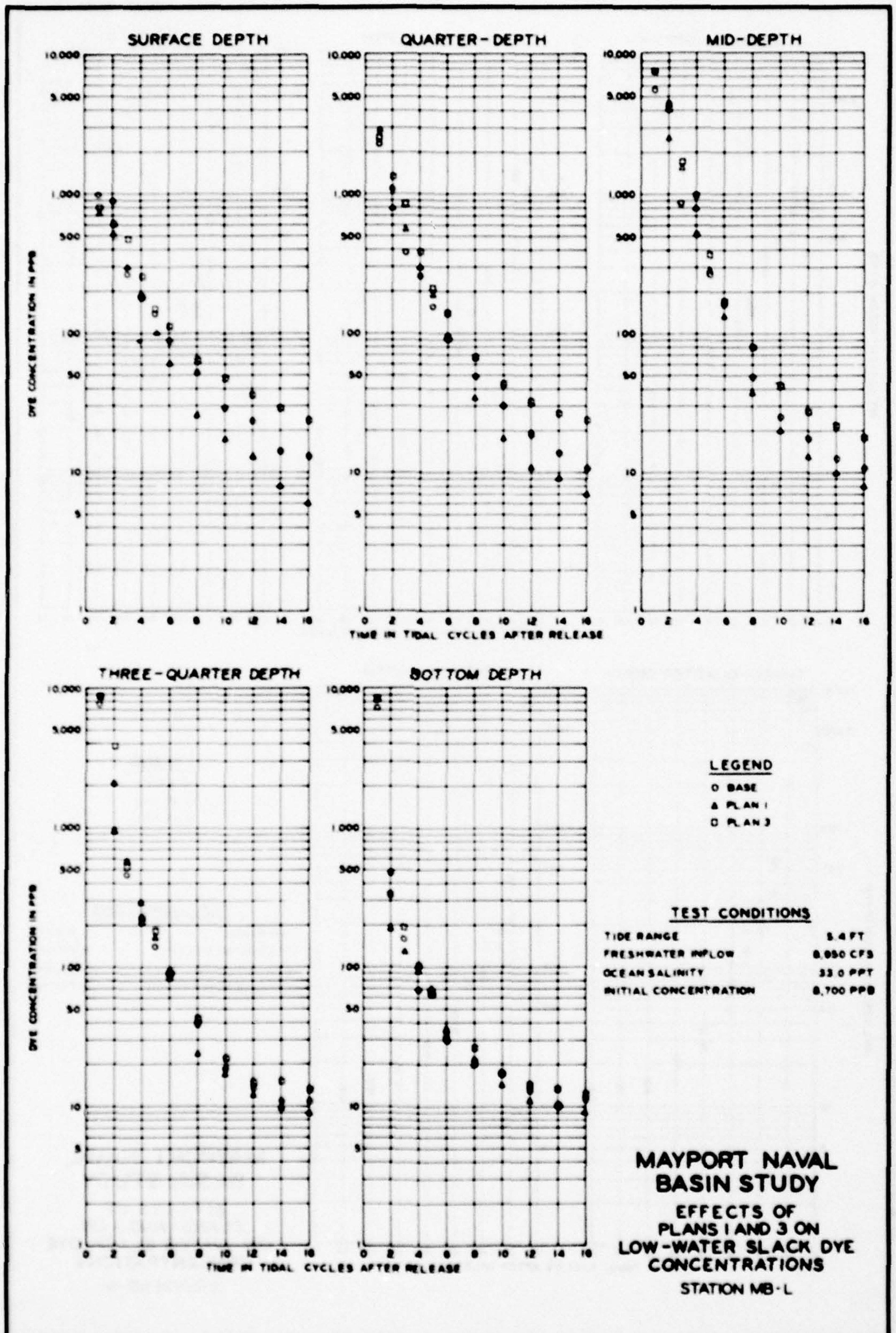
EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-J



EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

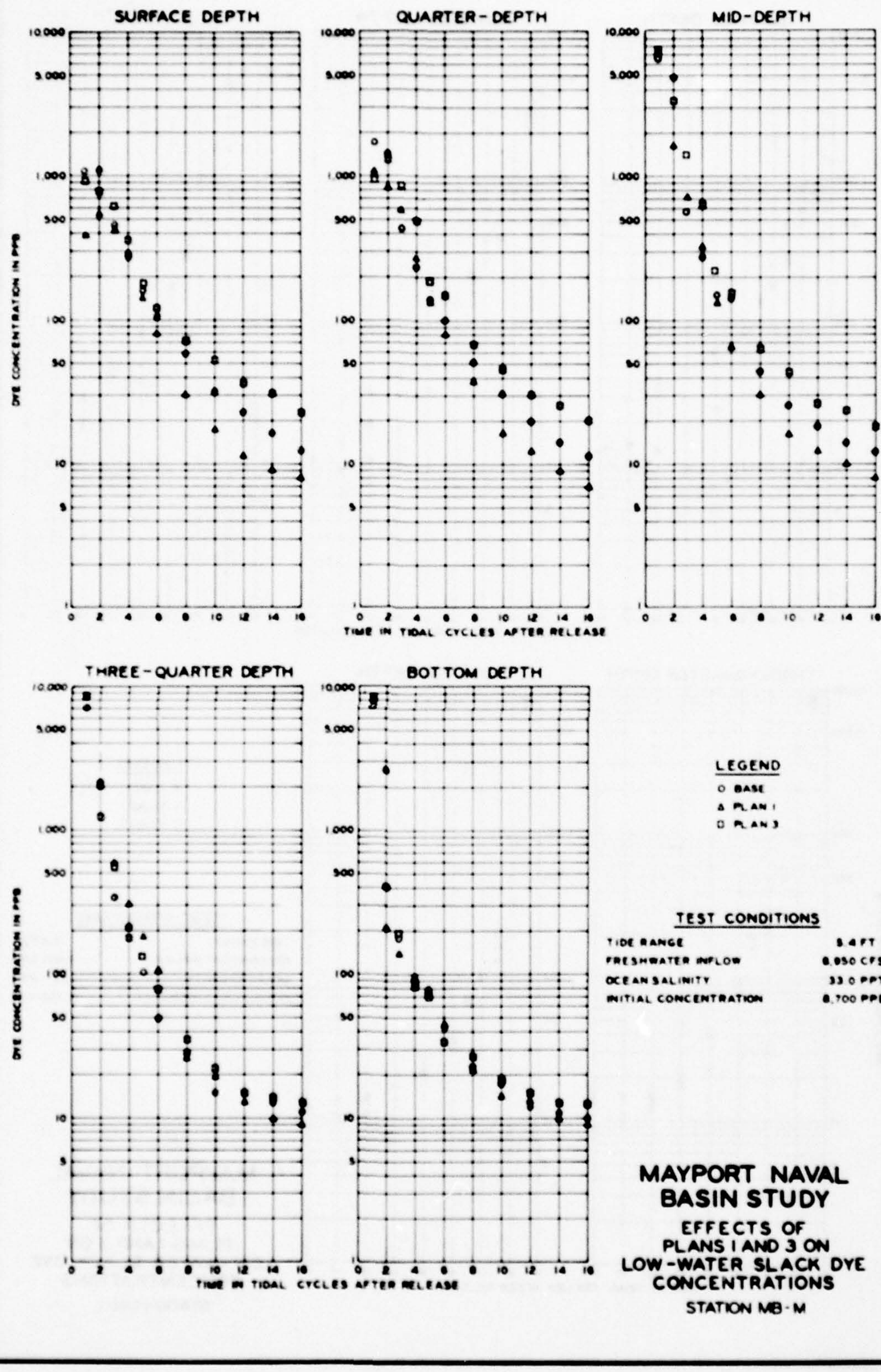
STATION MB-K



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-L



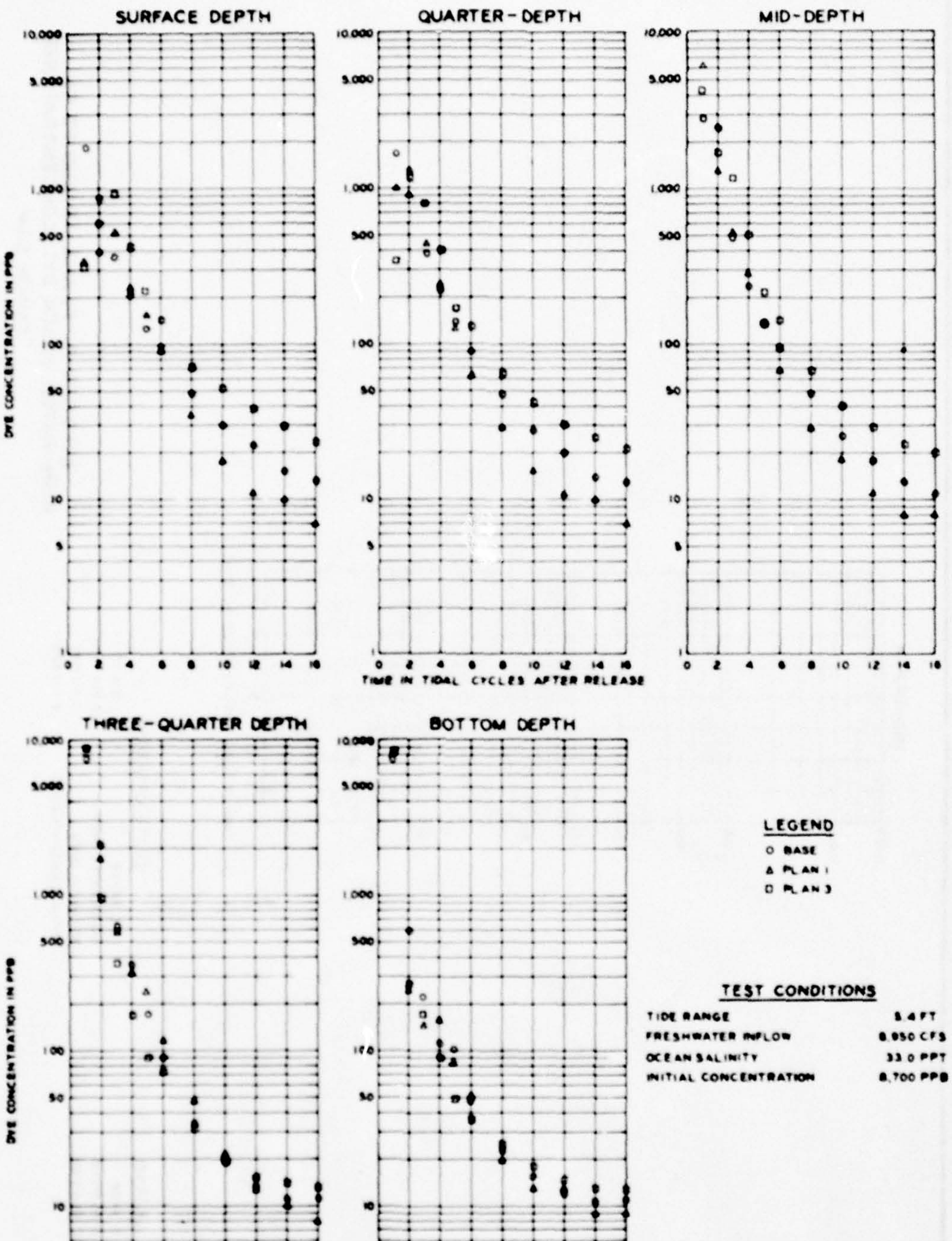
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

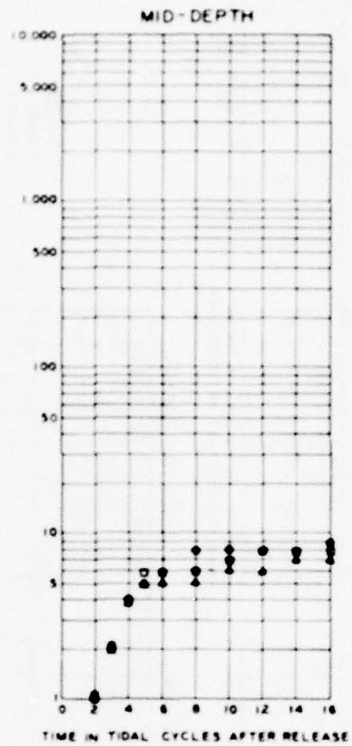
STATION MB-M



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 1 AND 3 ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-N



LEGEND

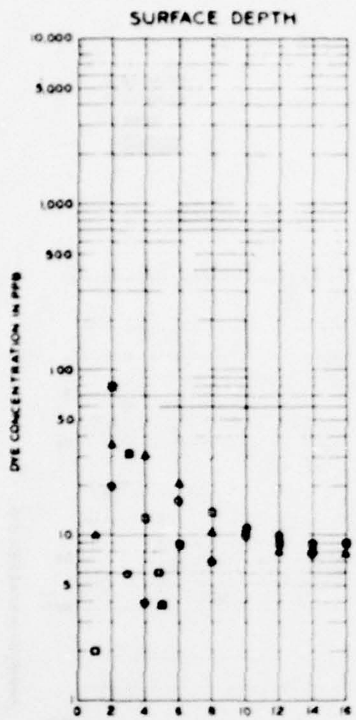
- O BASE
- △ PLAN 4B
- □ PLAN 5B

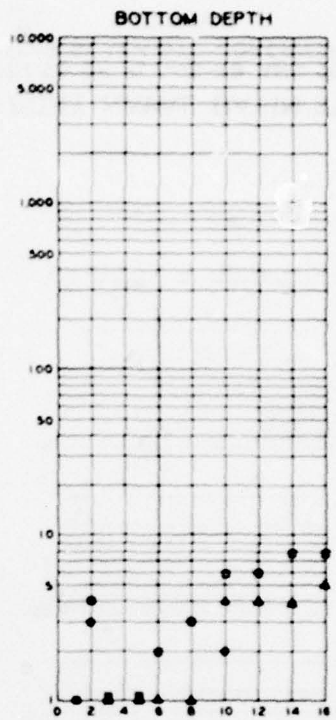
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION SUMP





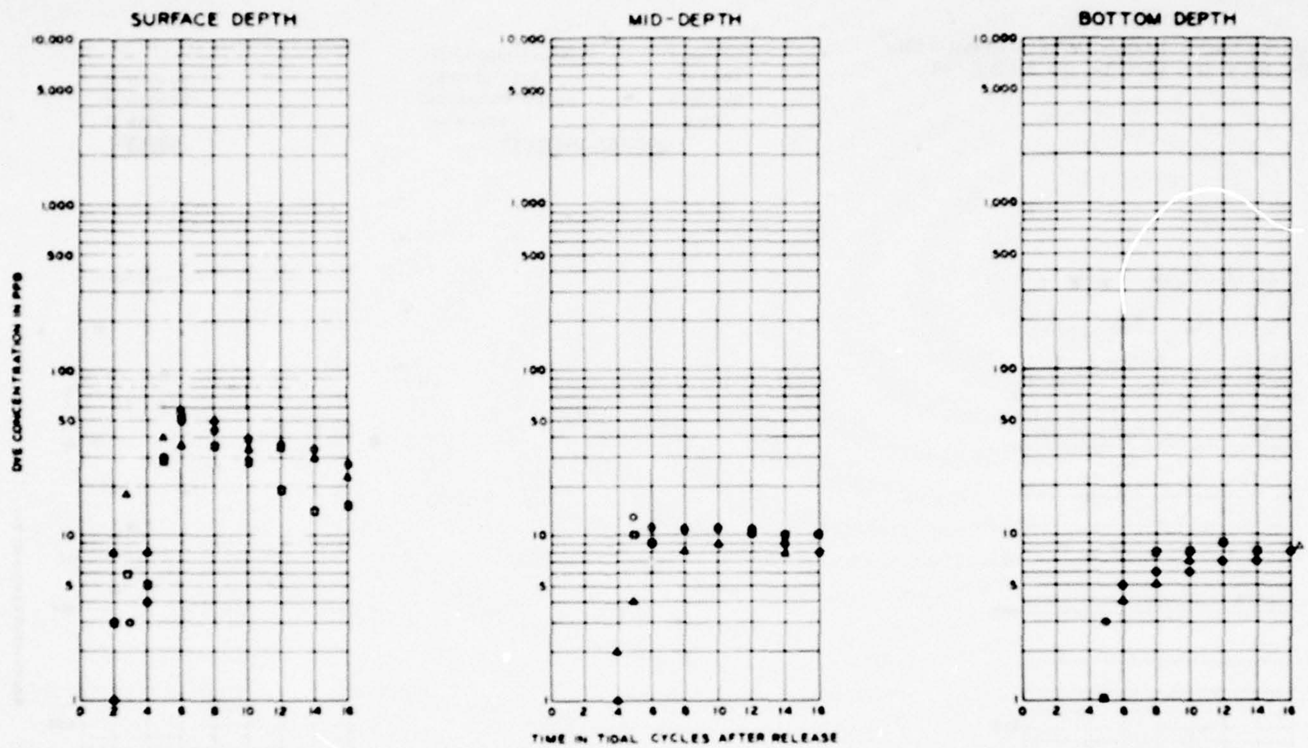
LEGEND

- O BASE
- Δ PLAN 4B
- □ PLAN 5B

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

EFFECTS OF PLANS 4B AND 5B ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION OCEAN



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

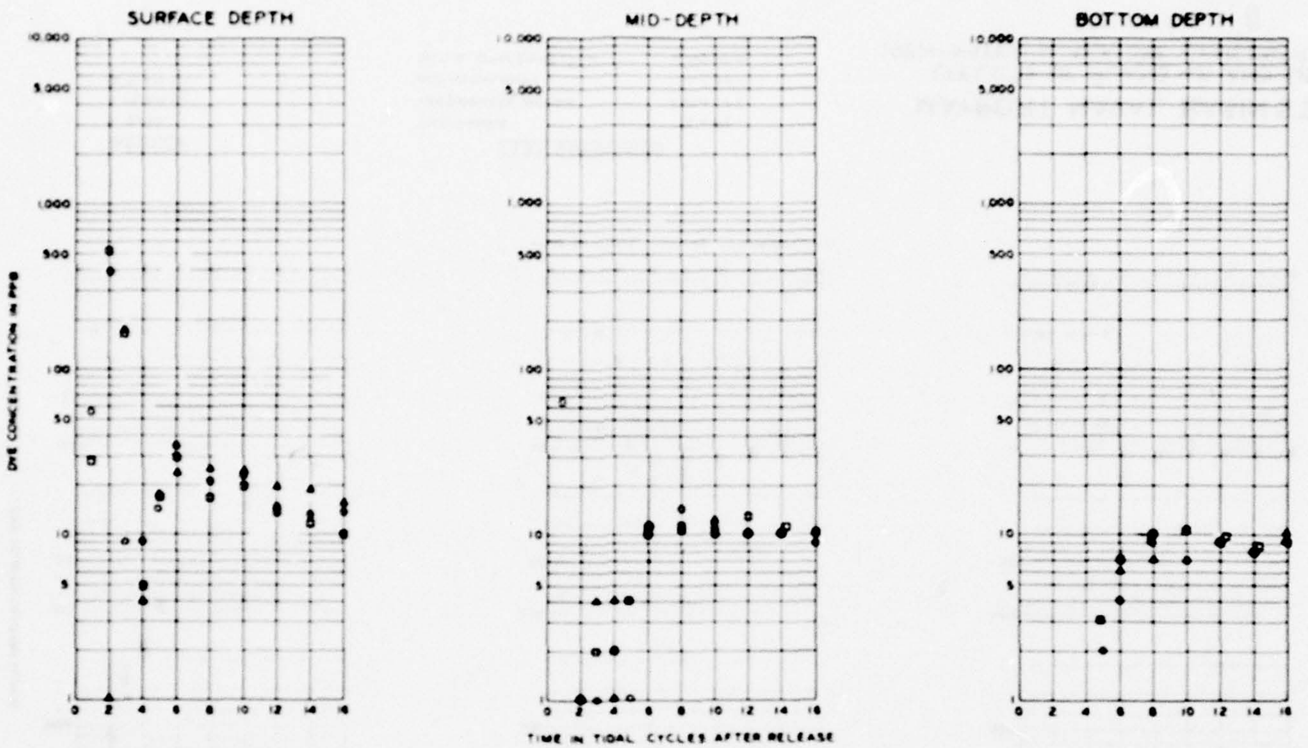
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION Y-A



LEGEND

- O BASE
- Δ PLAN 4B
- □ PLAN 5B

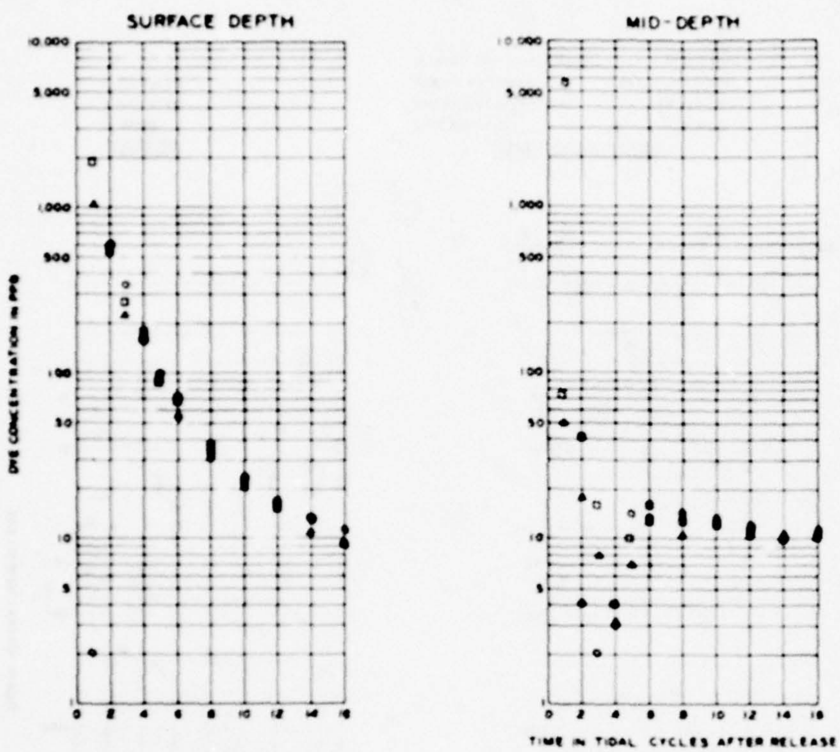
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION Z-B



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

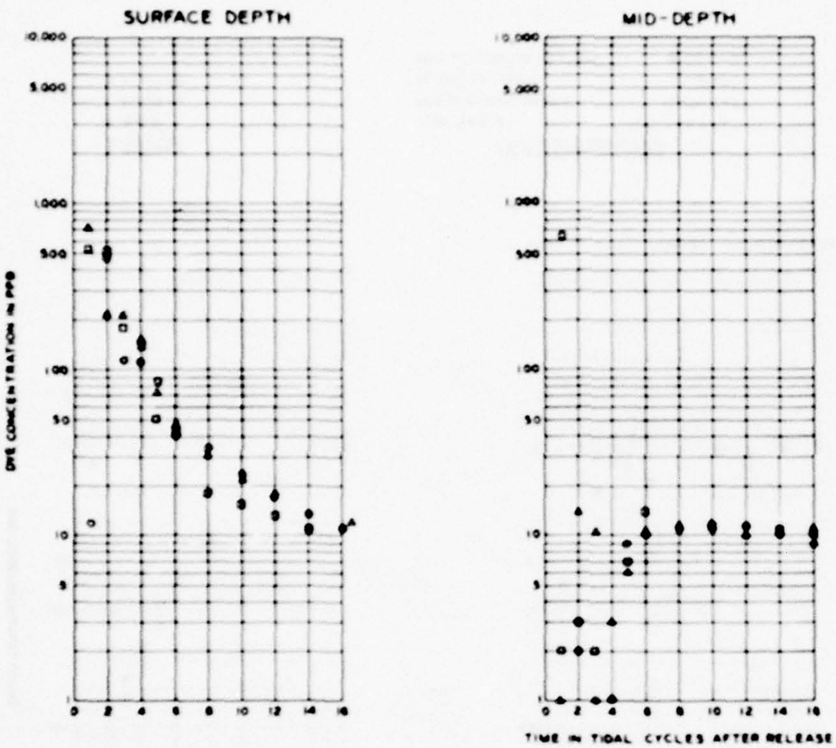
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION O-A



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION O-B

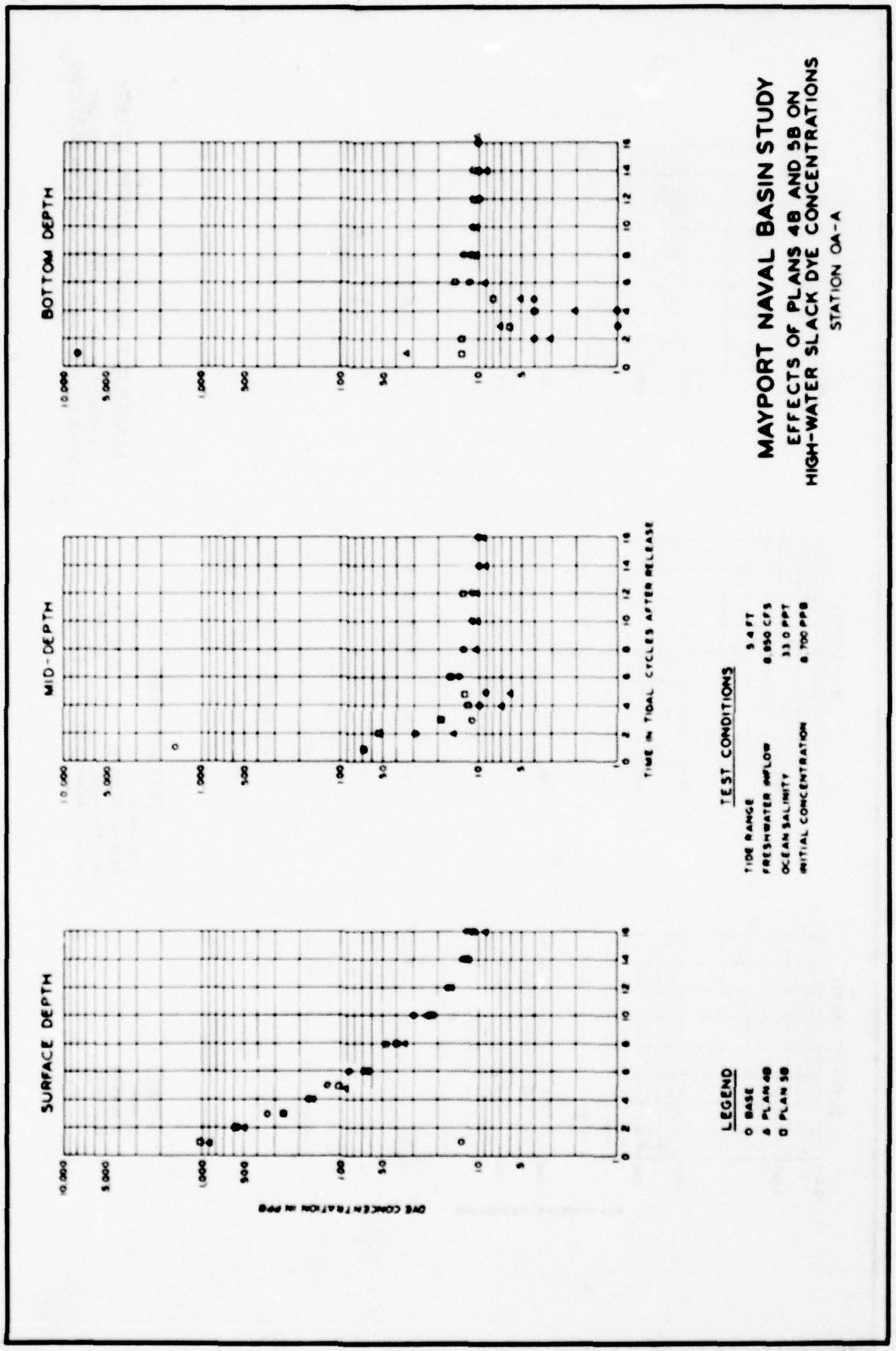
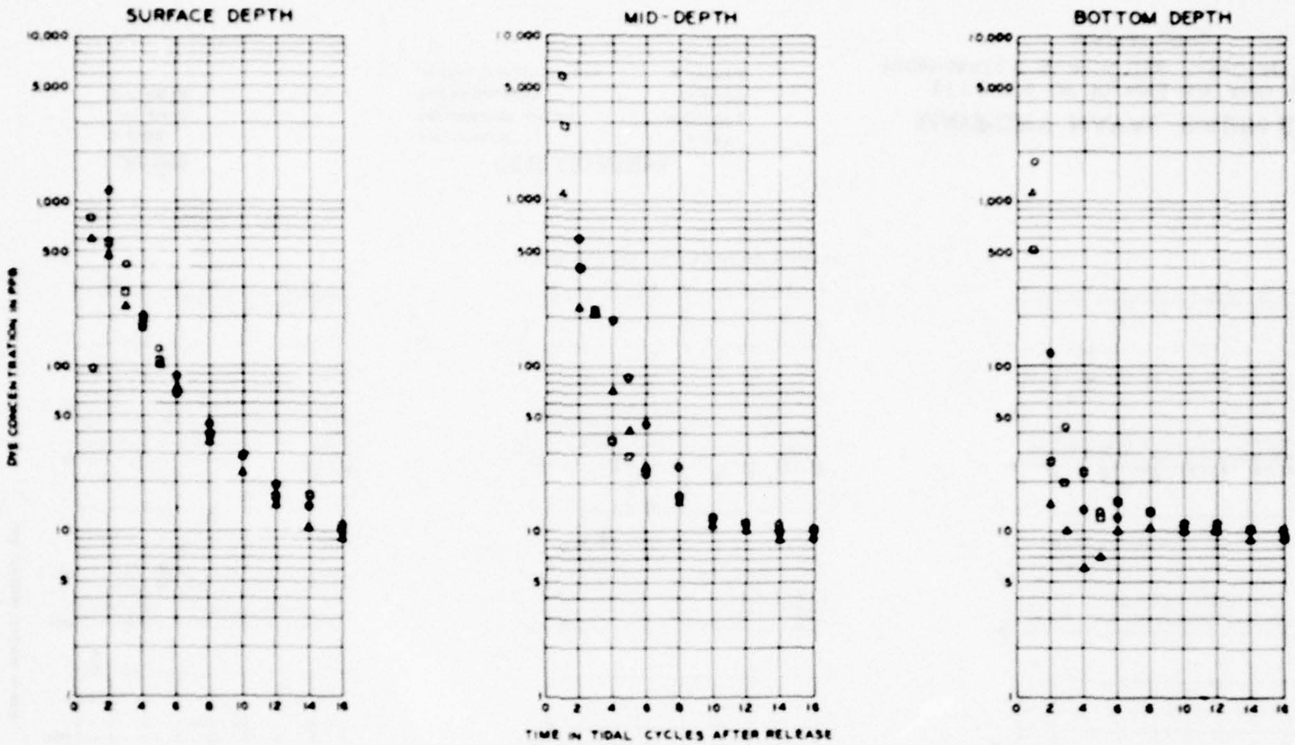

MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 4B AND 5B ON
HIGH-WATER SLACK DYE CONCENTRATIONS
STATION OA-A
SURFACE DEPTH
MID-DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
10,000
5,000
1,000
500
100
50
10
5
1
0
2
4
6
8
10
12
14
16
LEGEND
O BASE
△ PLAN 4B
□ PLAN 5B
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB

PLATE 240



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

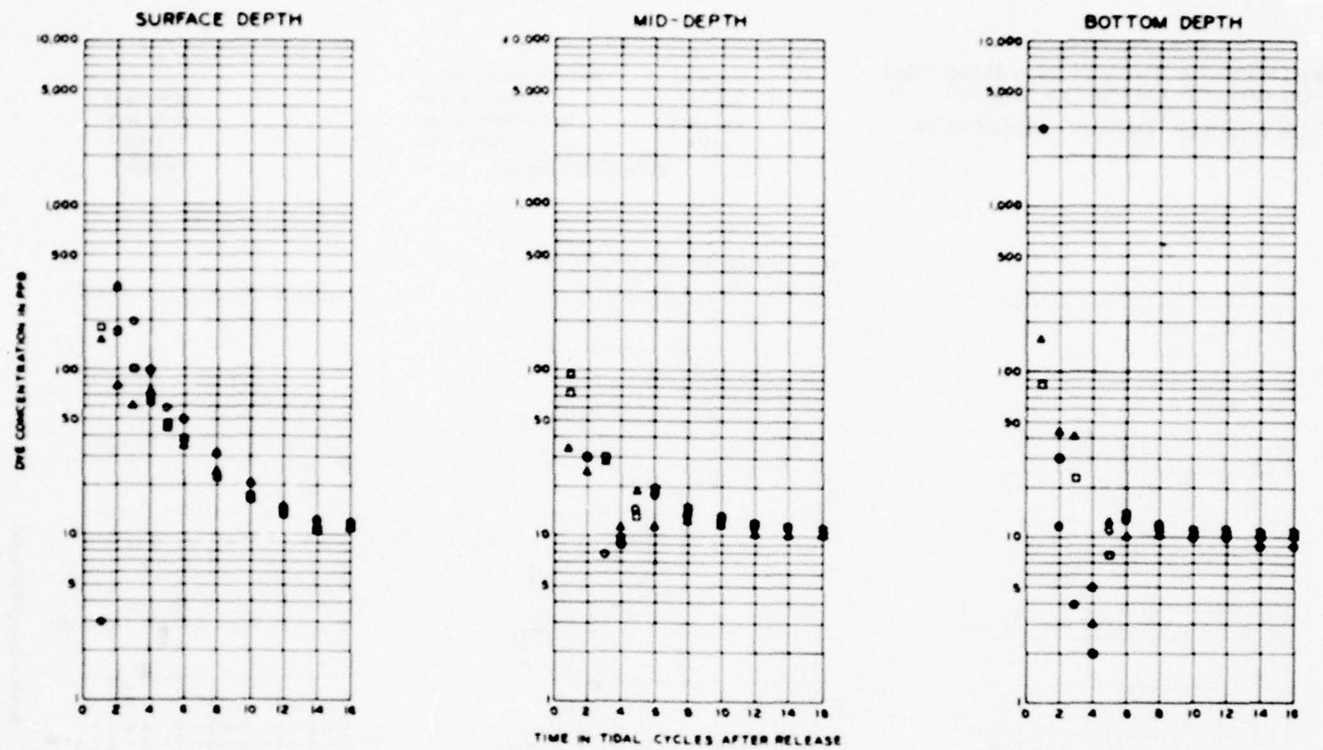
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION OB-A



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

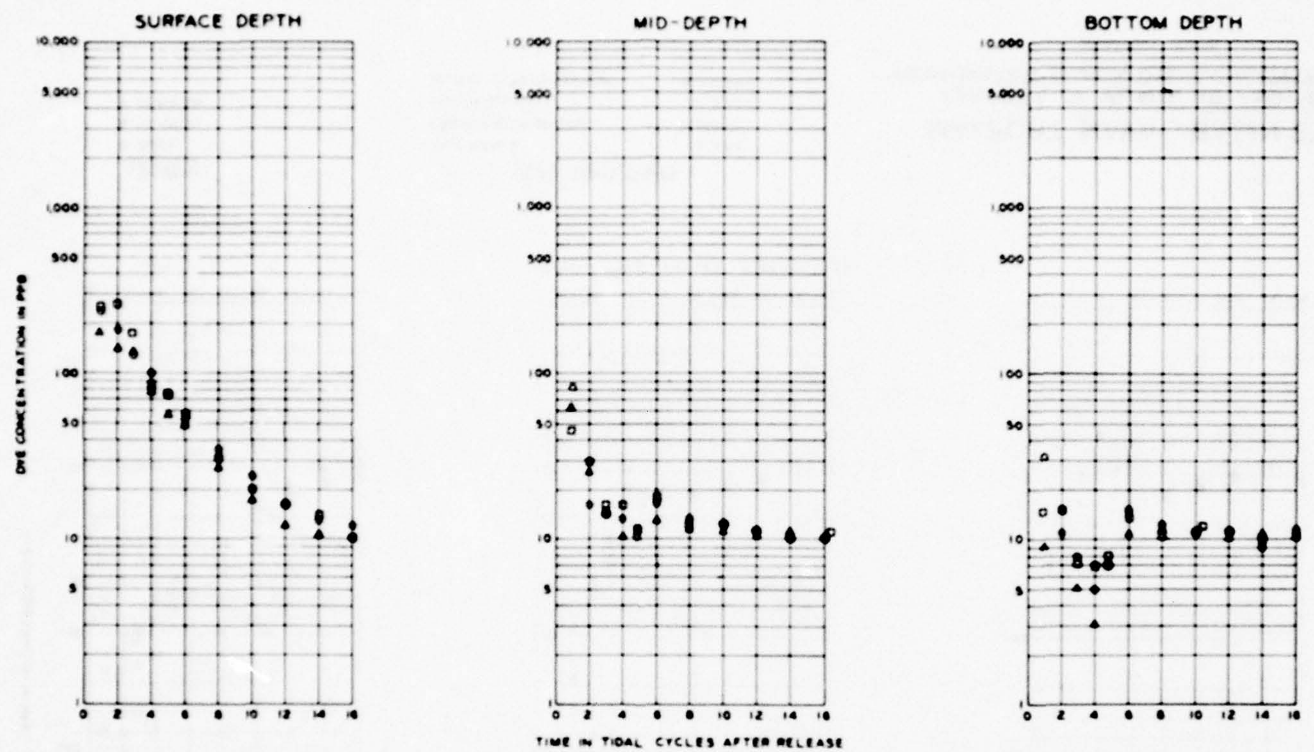
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION OB-C



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

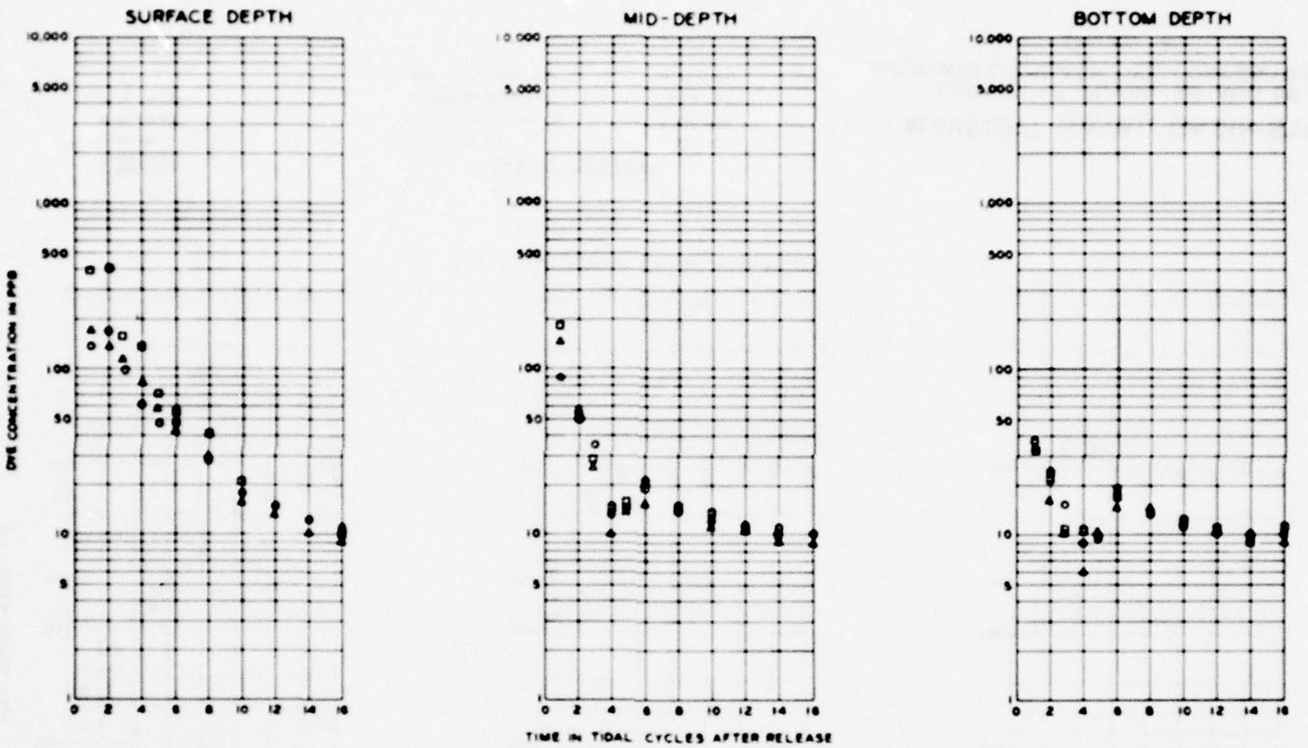
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 1A-B



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

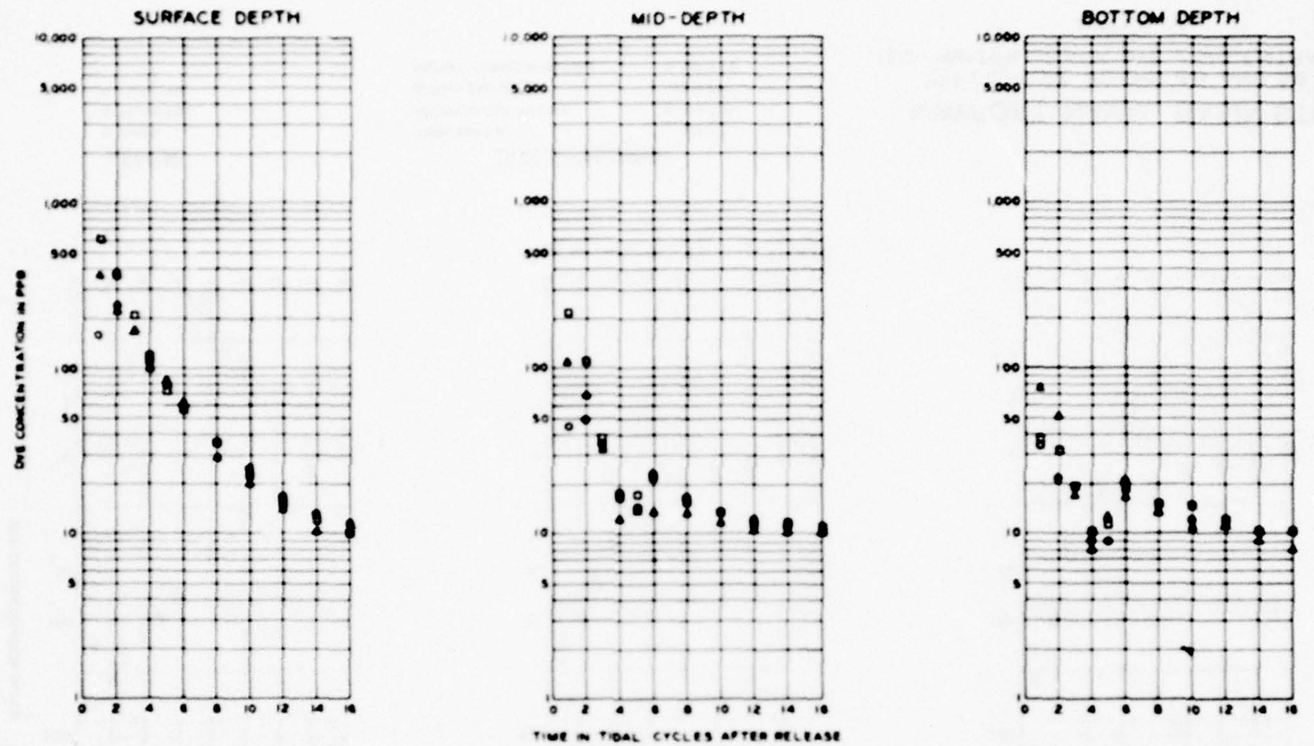
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 2A-A



LEGEND

- ○ BASE
- △ PLAN 4B
- □ PLAN 5B

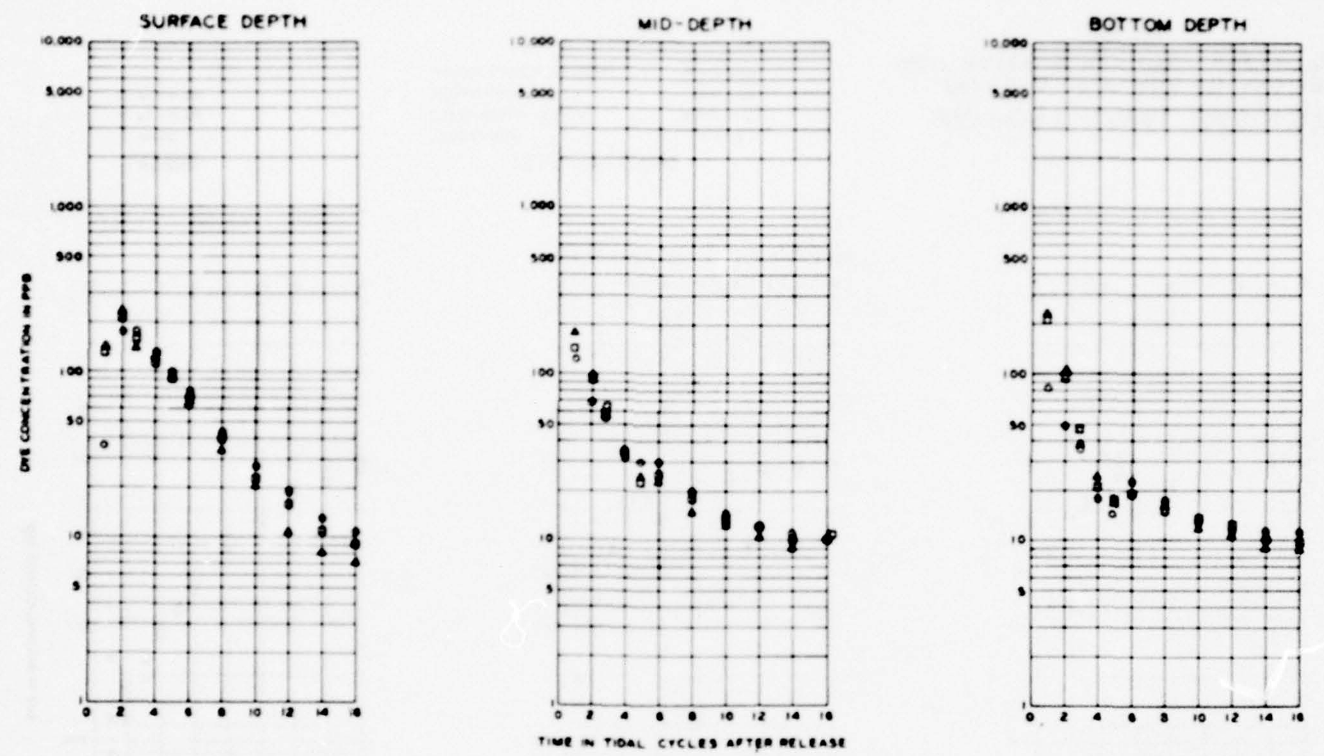
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 3A



LEGEND

- O BASE
- Δ PLAN 4B
- □ PLAN 5B

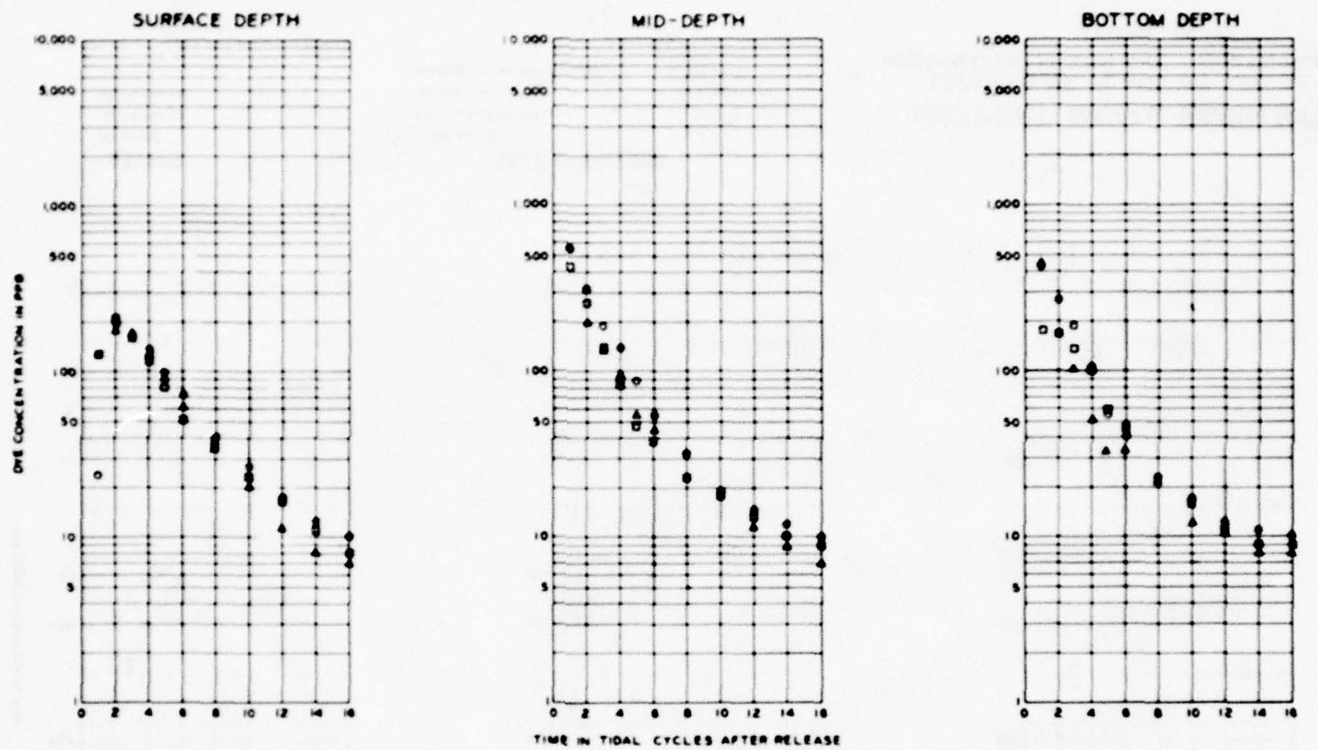
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 5A



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

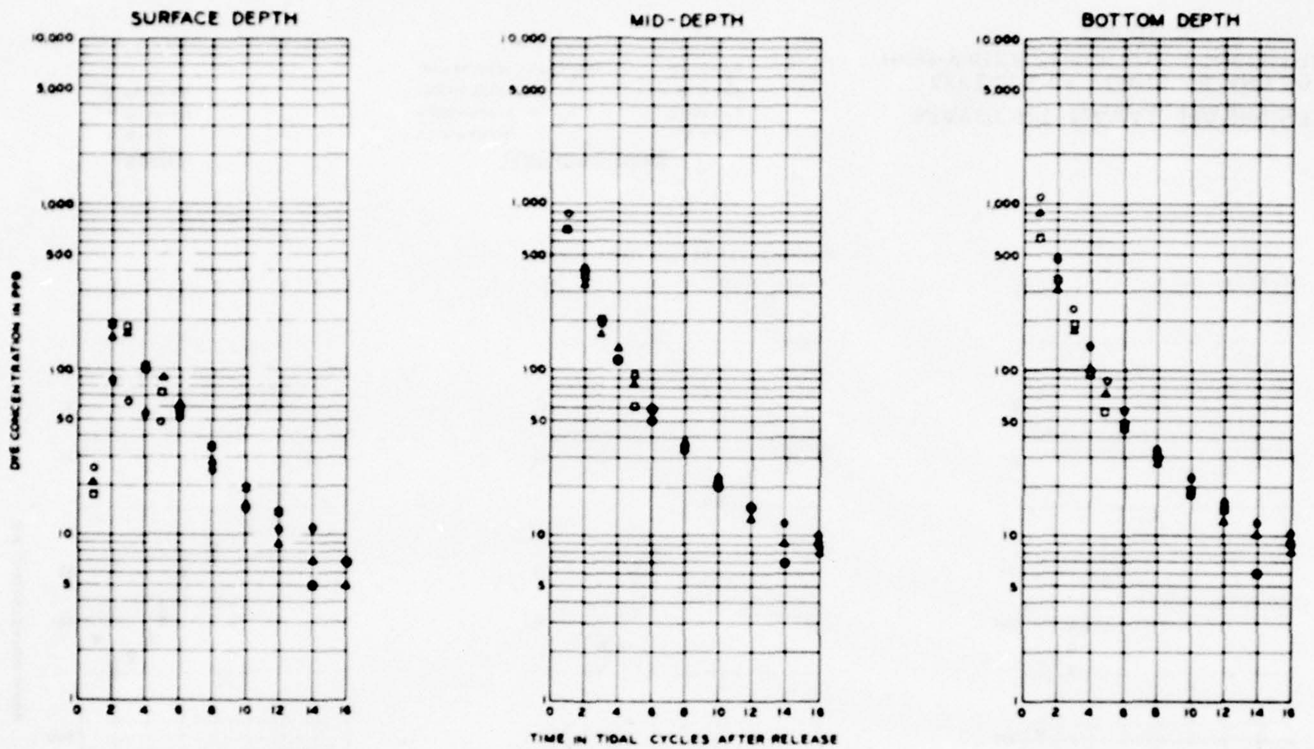
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 7B



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

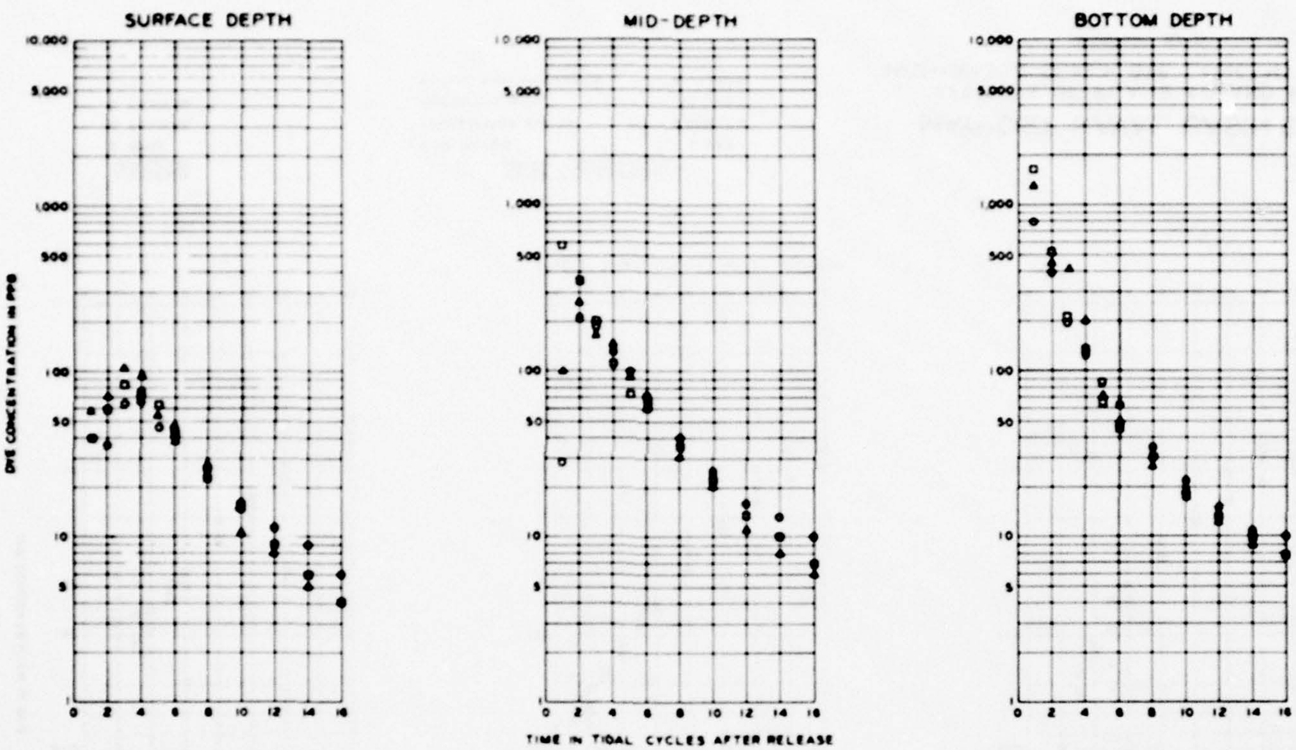
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 9B



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

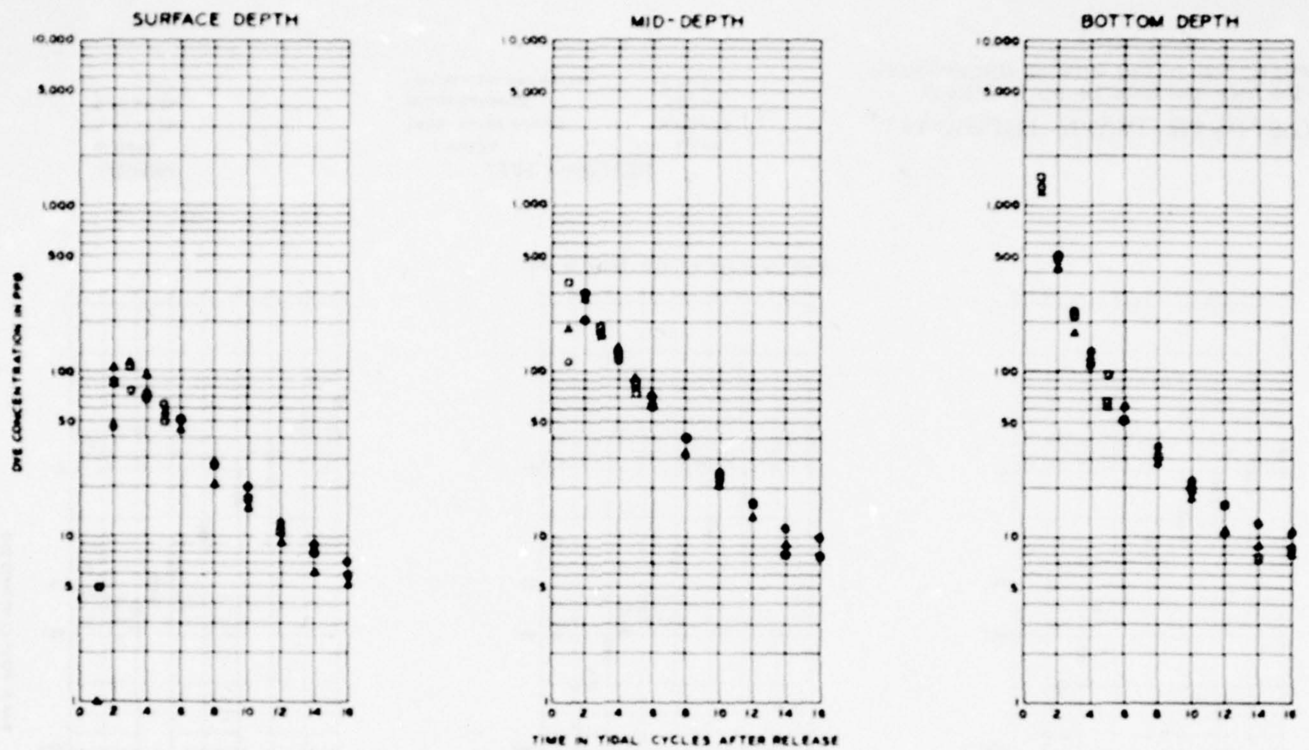
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 9A-B



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

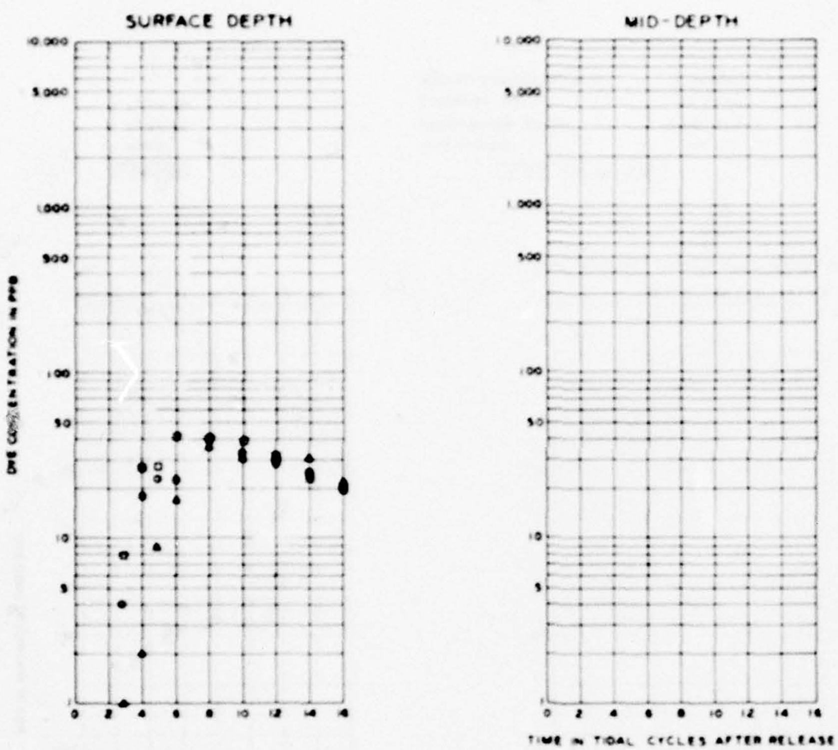
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION 10-A



LEGEND

- O BASE
- ▲ PLAN 4B
- ▫ PLAN 5B

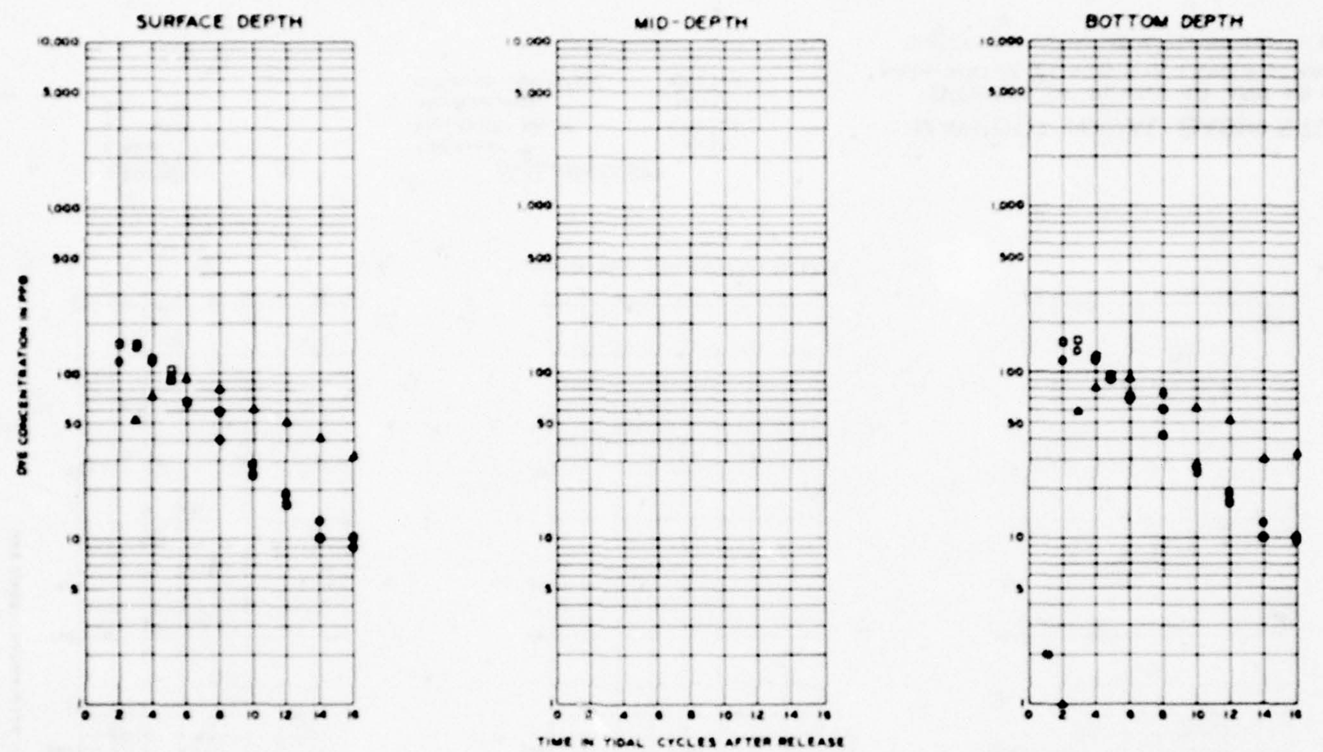
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON
HIGH-WATER SLACK DYE CONCENTRATIONS

STATION INTRACOASTAL WATERWAY-NORTH (IW-N)



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION INTRACOASTAL WATERWAY-SOUTH (IW-S)

PLATE 252

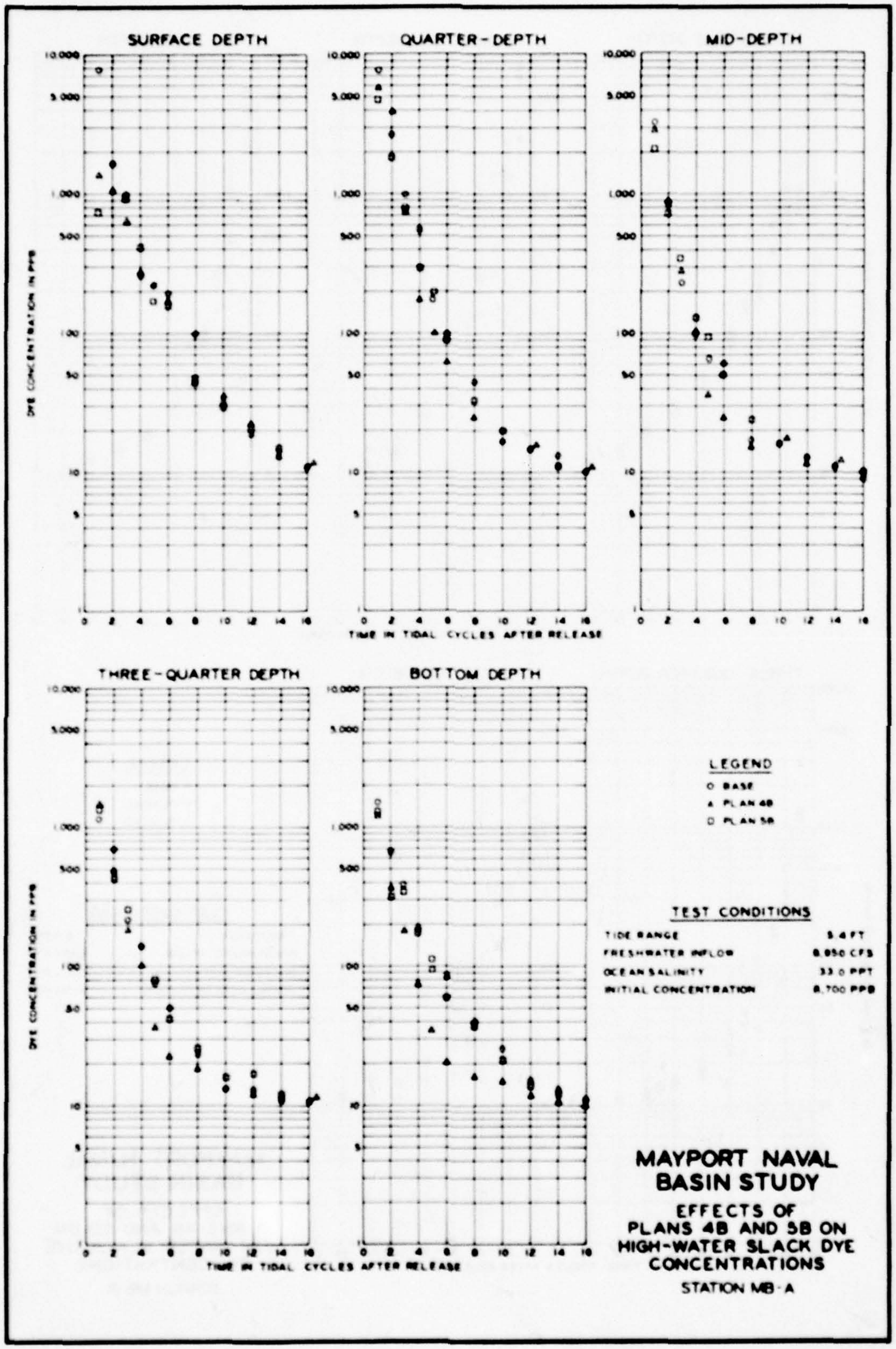
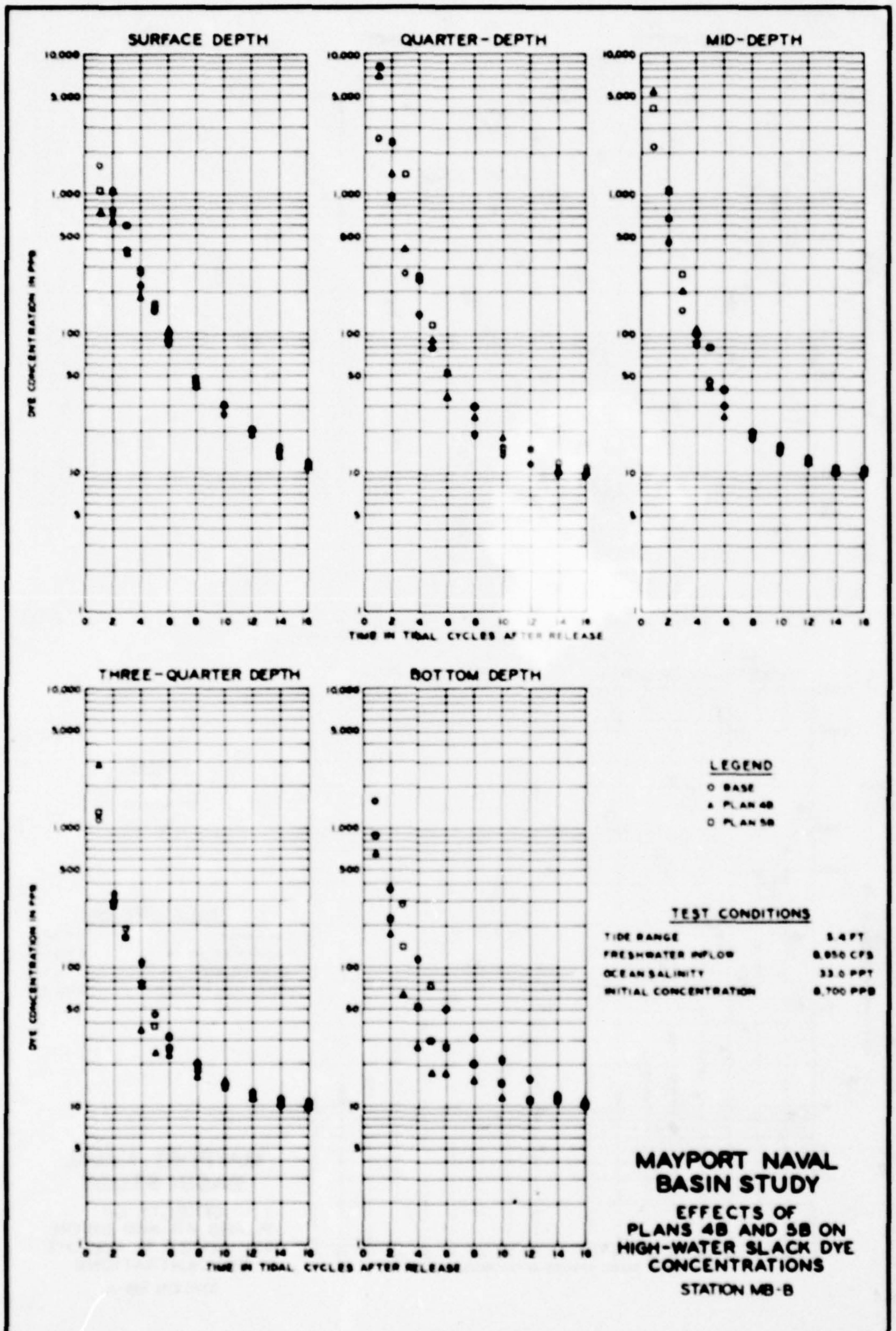

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
O BASE
▲ PLAN 4B
□ PLAN 5B
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS
STATION MB-A

PLATE 253

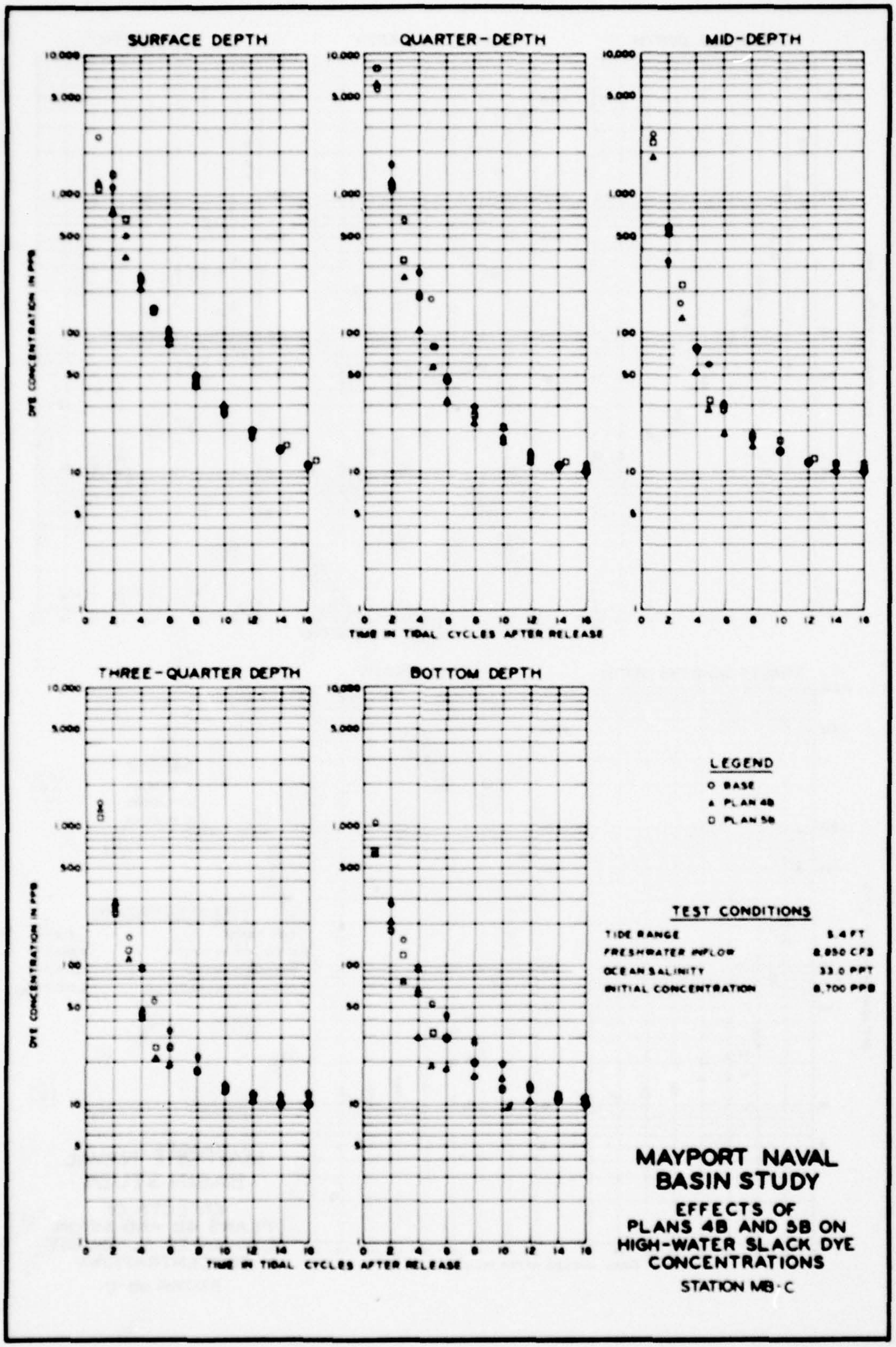


MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-B

PLATE 254



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-C

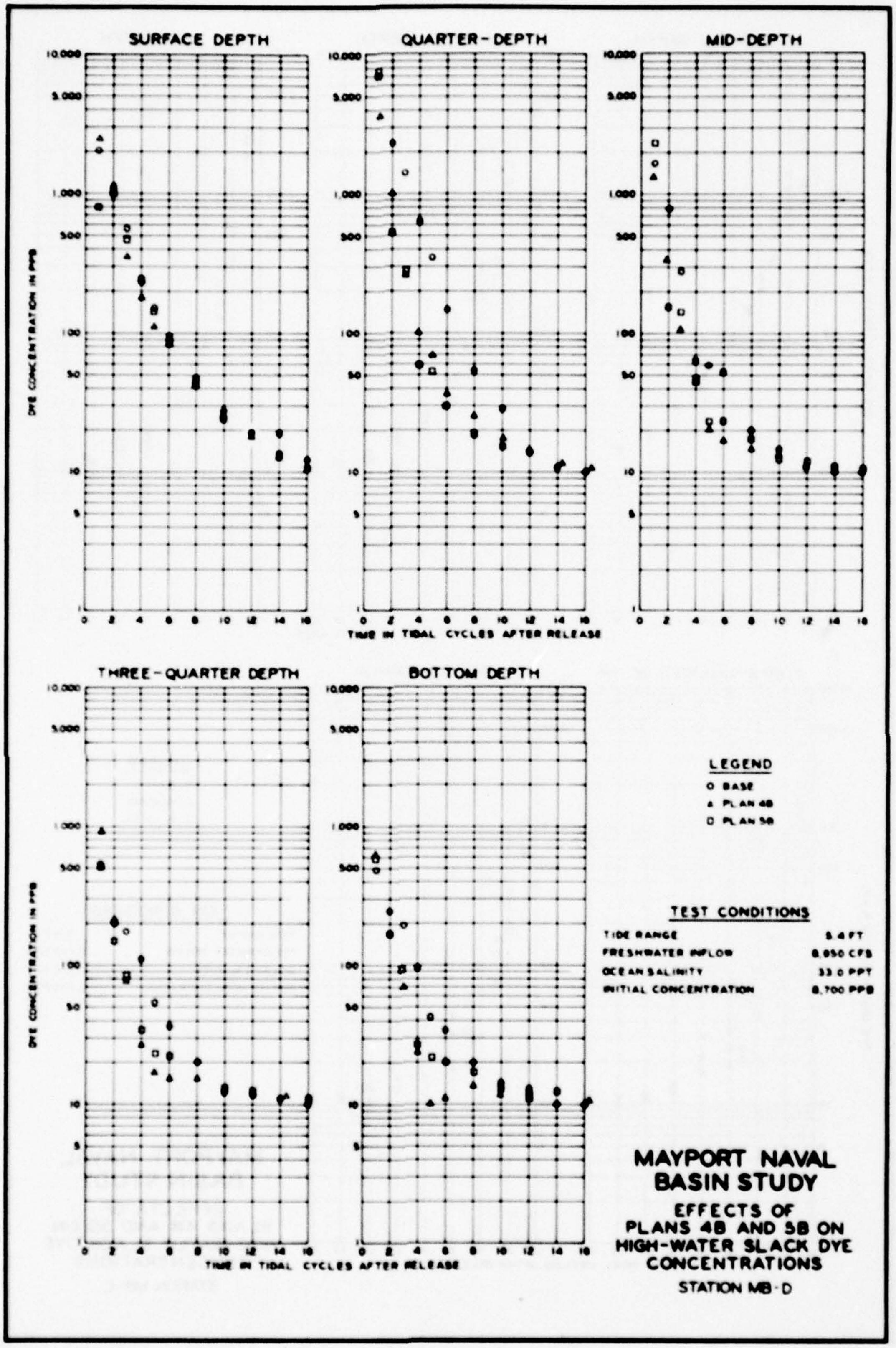
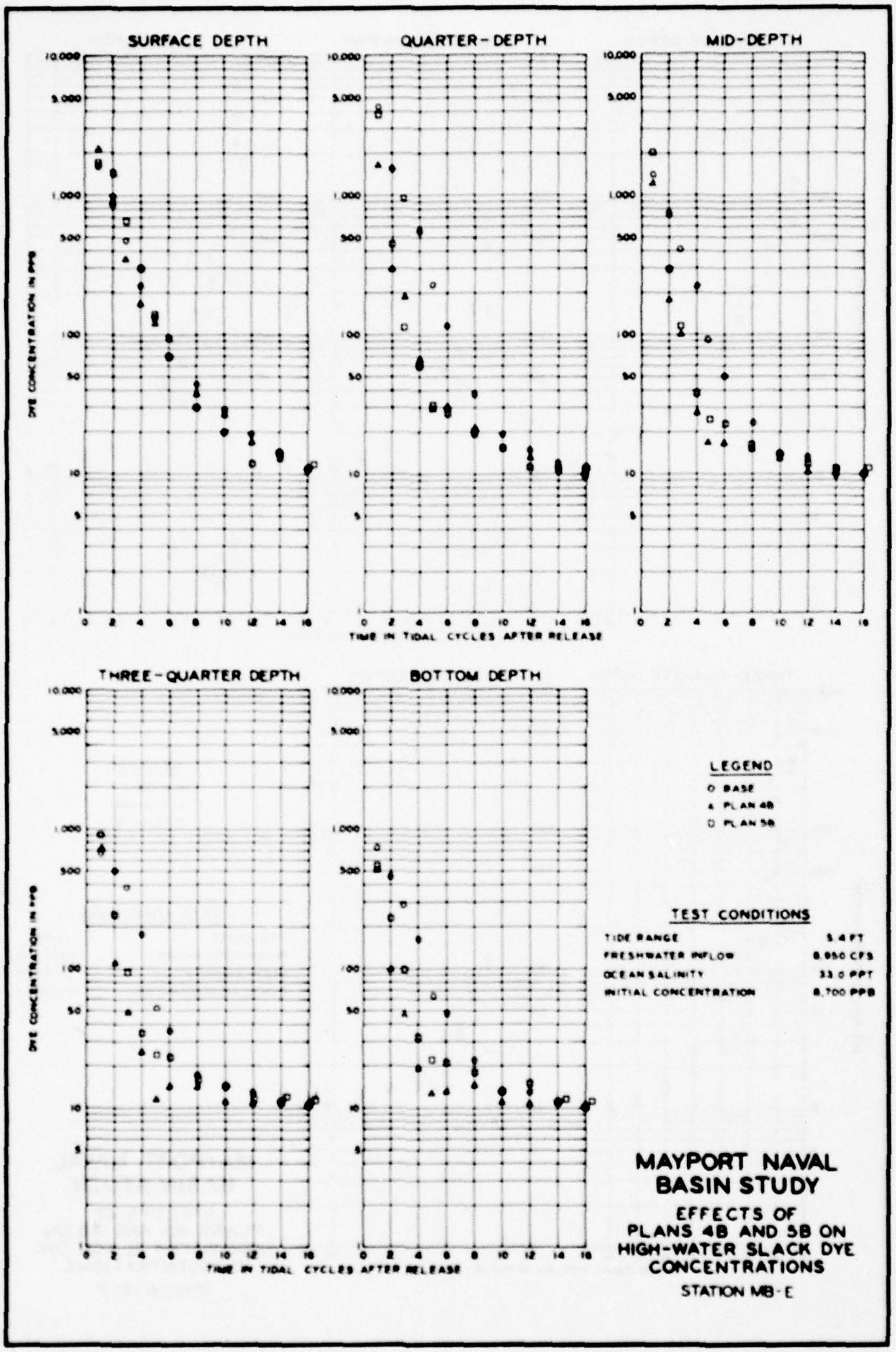

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
O BASE
△ PLAN 4B
□ PLAN 5B
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS
STATION MB-D

PLATE 256



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-E

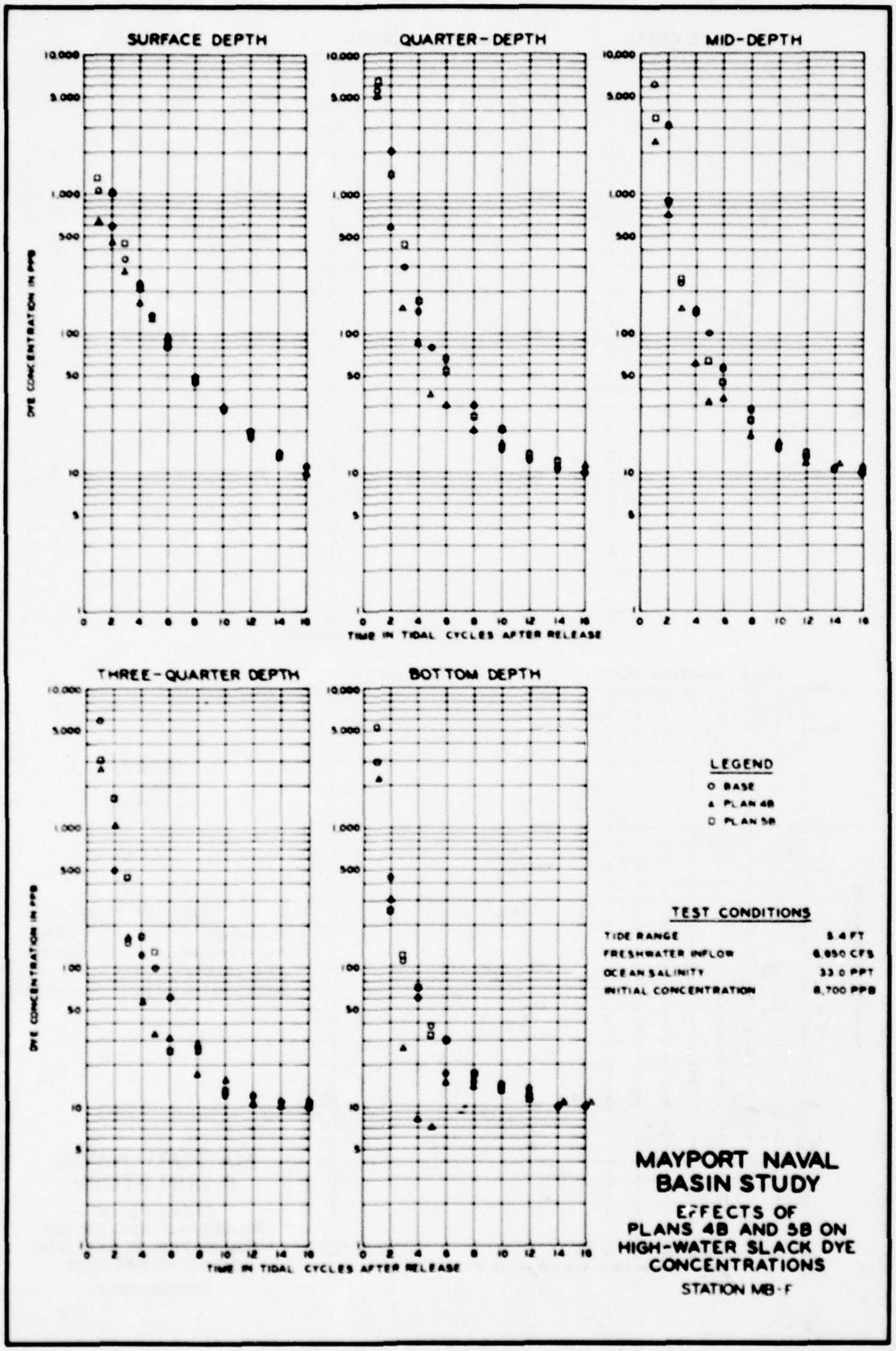
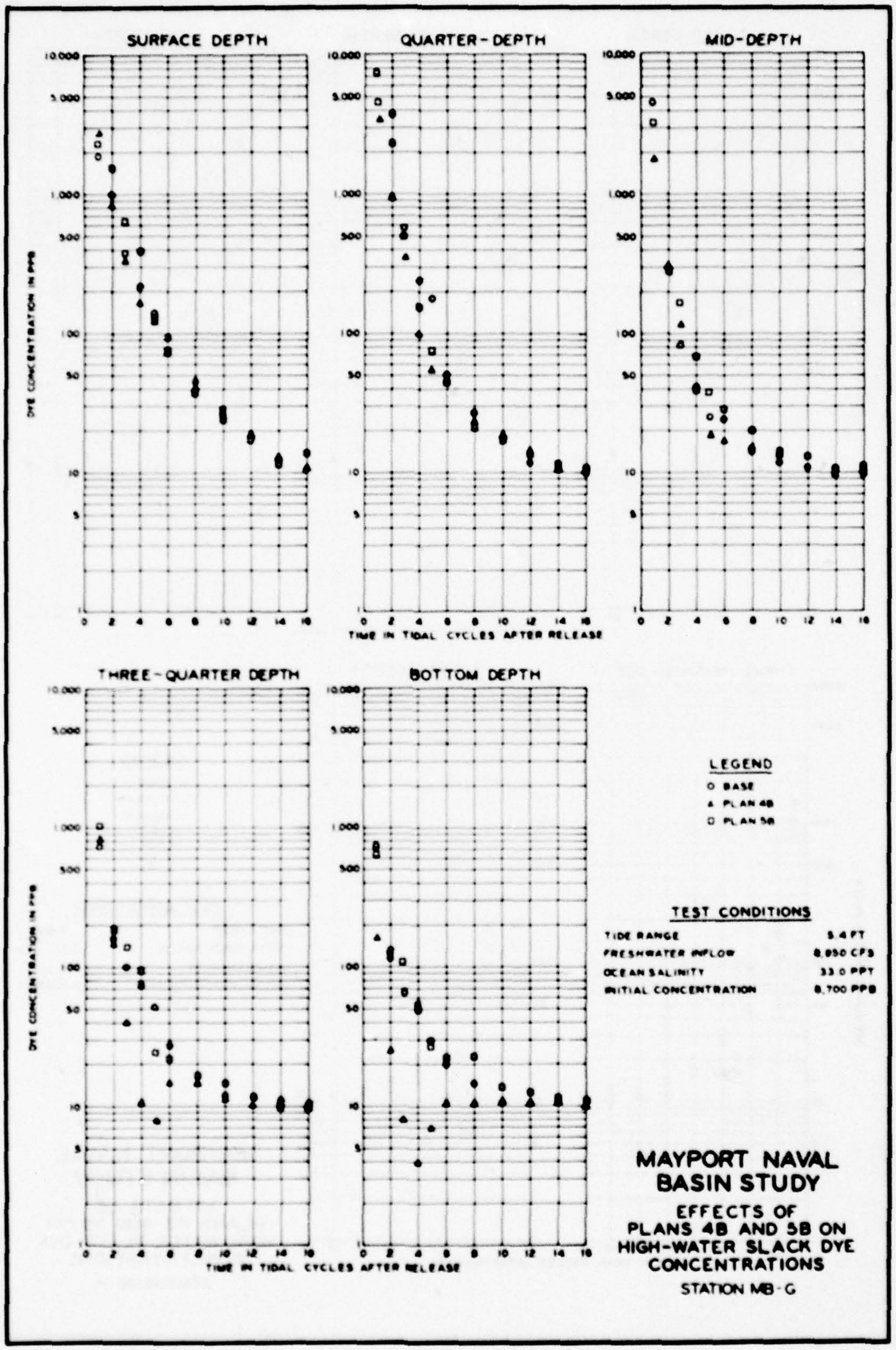

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
O BASE
▲ PLAN 4B
□ PLAN 5B
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 6,850 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS
STATION MB-F

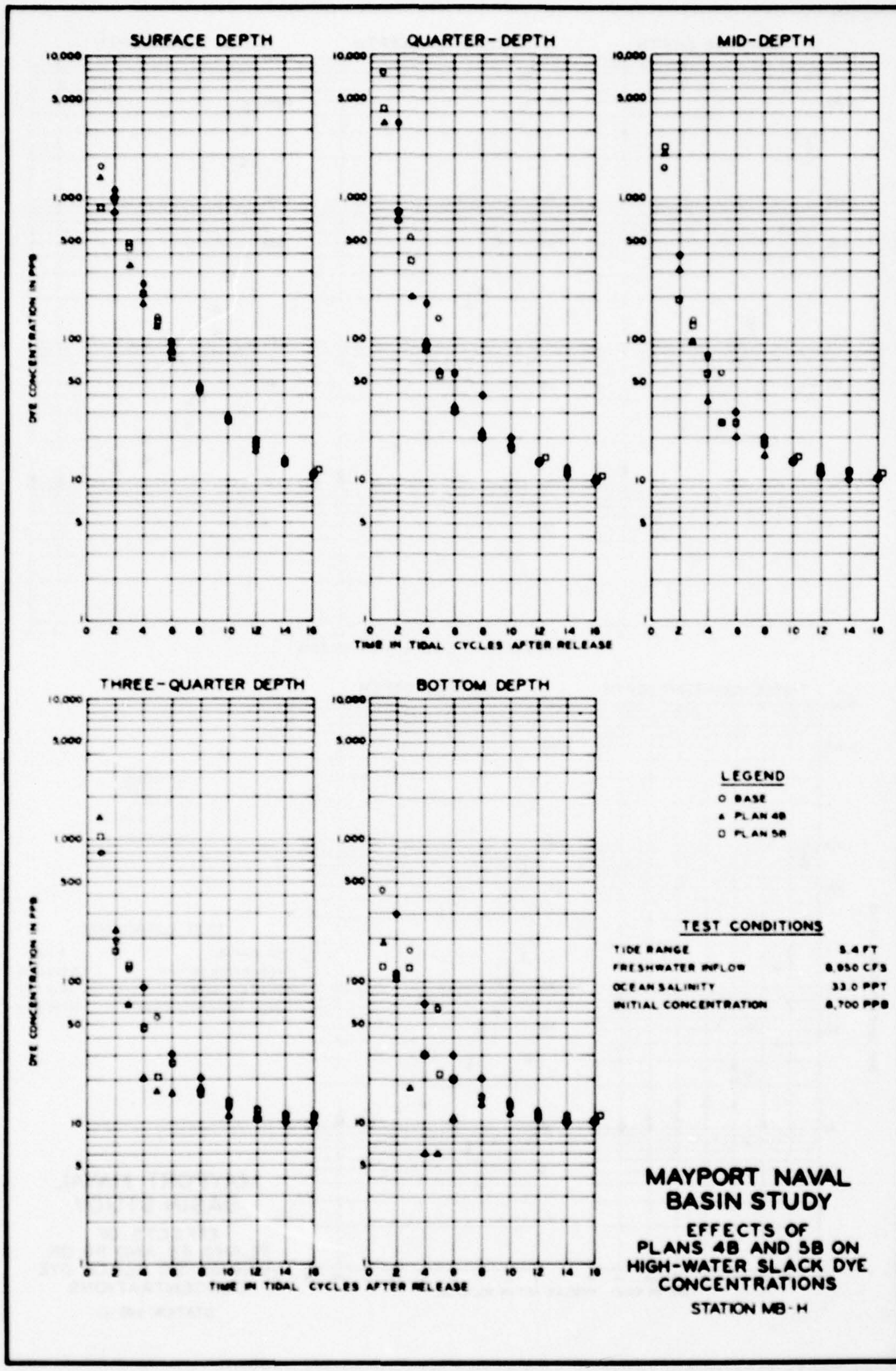
PLATE 258



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-G

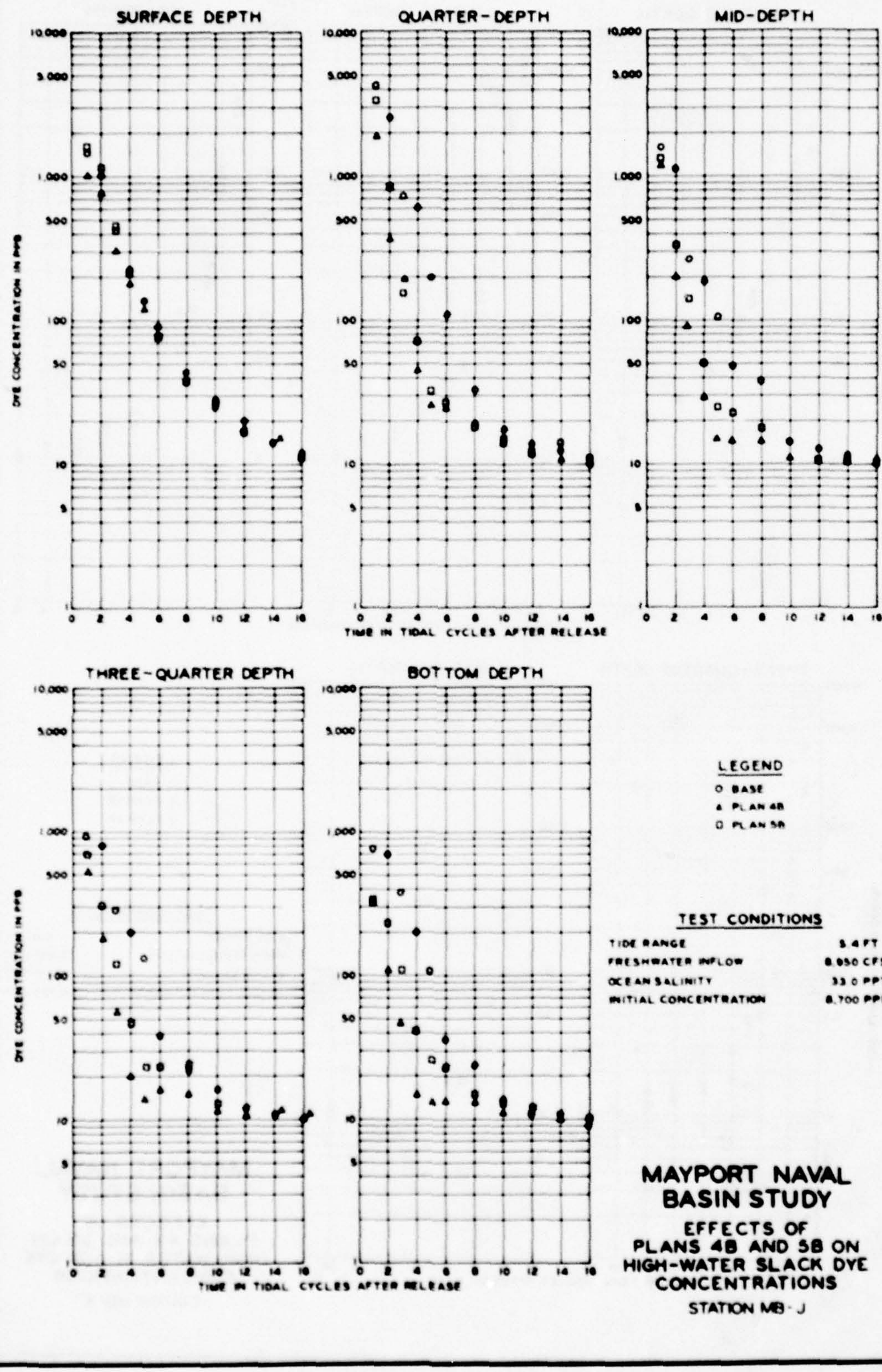


MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-H

PLATE 260



LEGEND

- ○ BASE
- △ PLAN 4B
- □ PLAN 5B

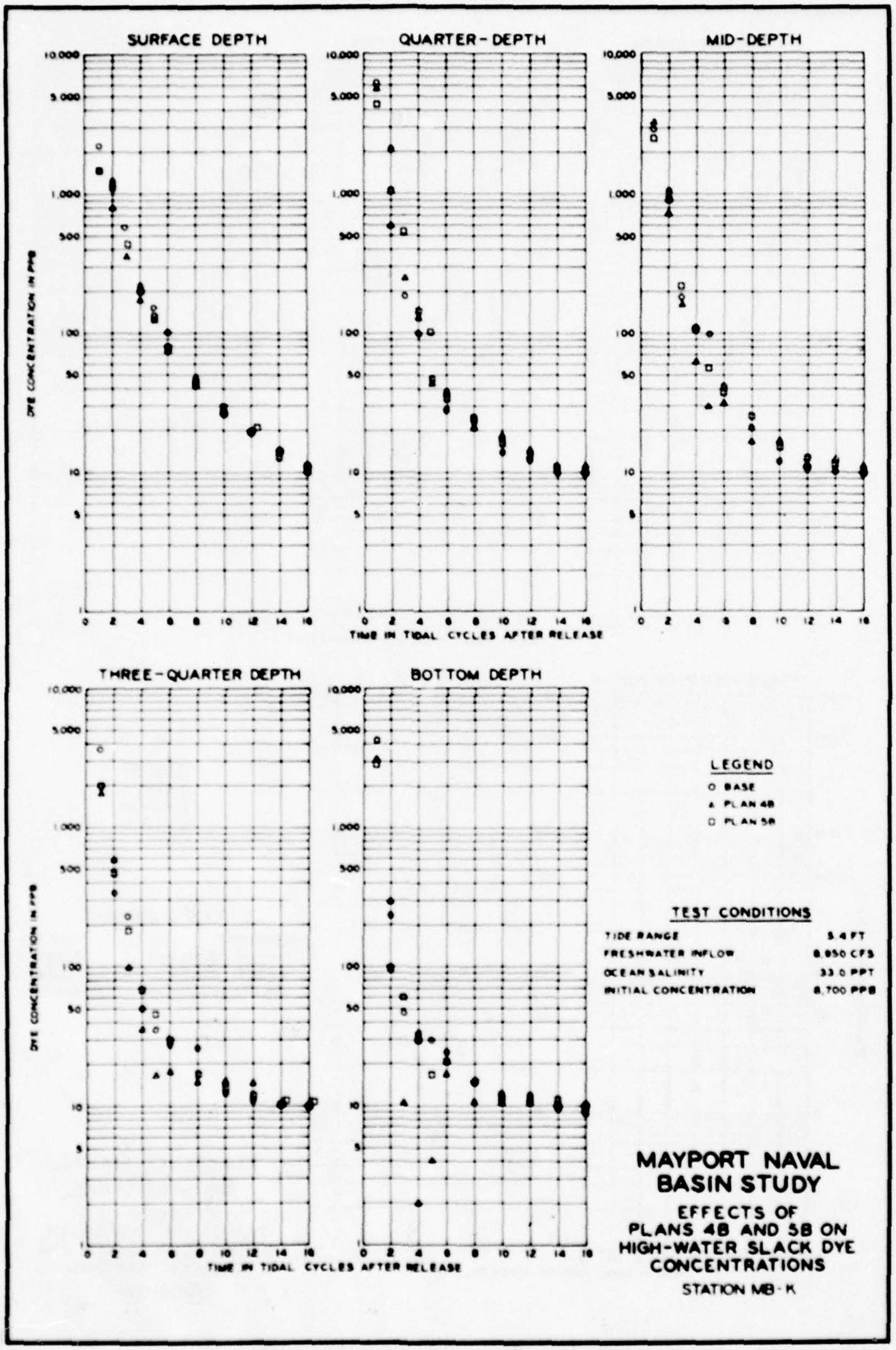
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-J

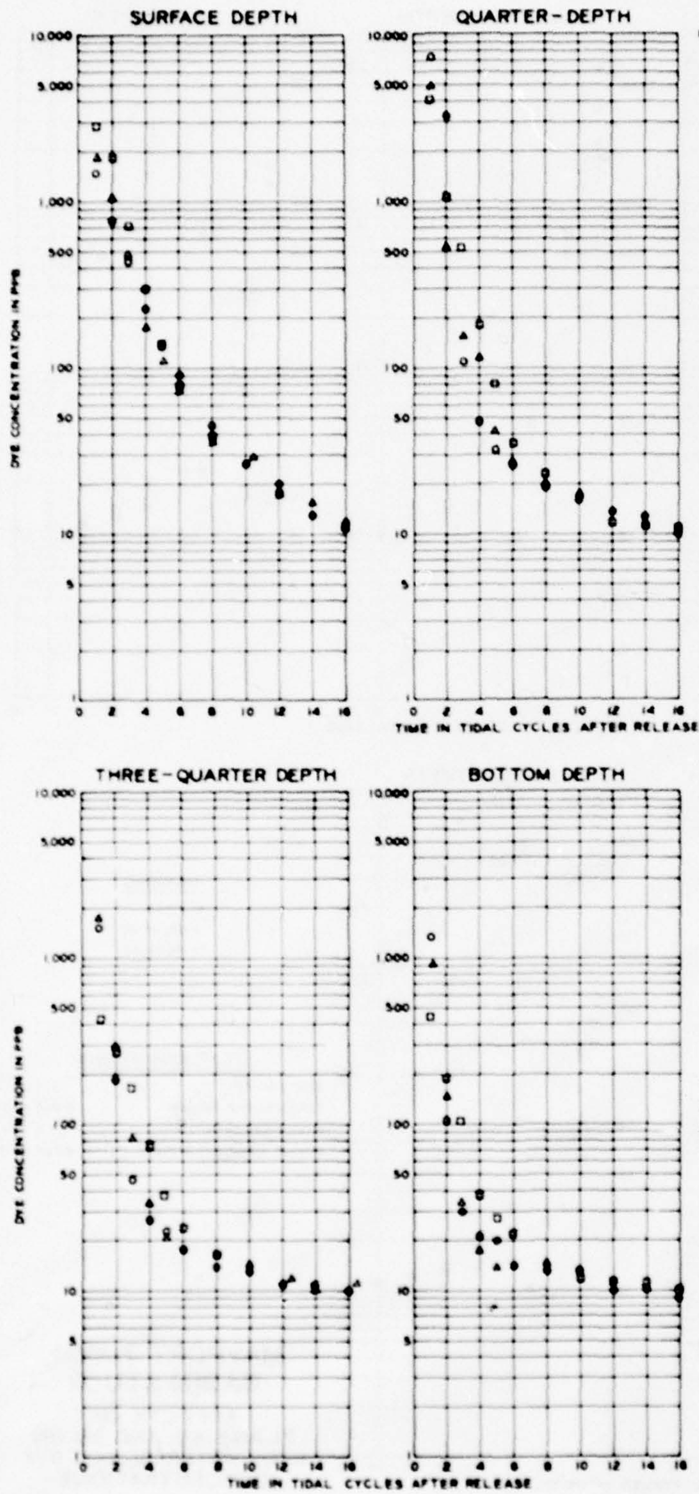


MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-K

PLATE 262



LEGEND

- O BASE
- ▲ PLAN 4B
- □ PLAN 5B

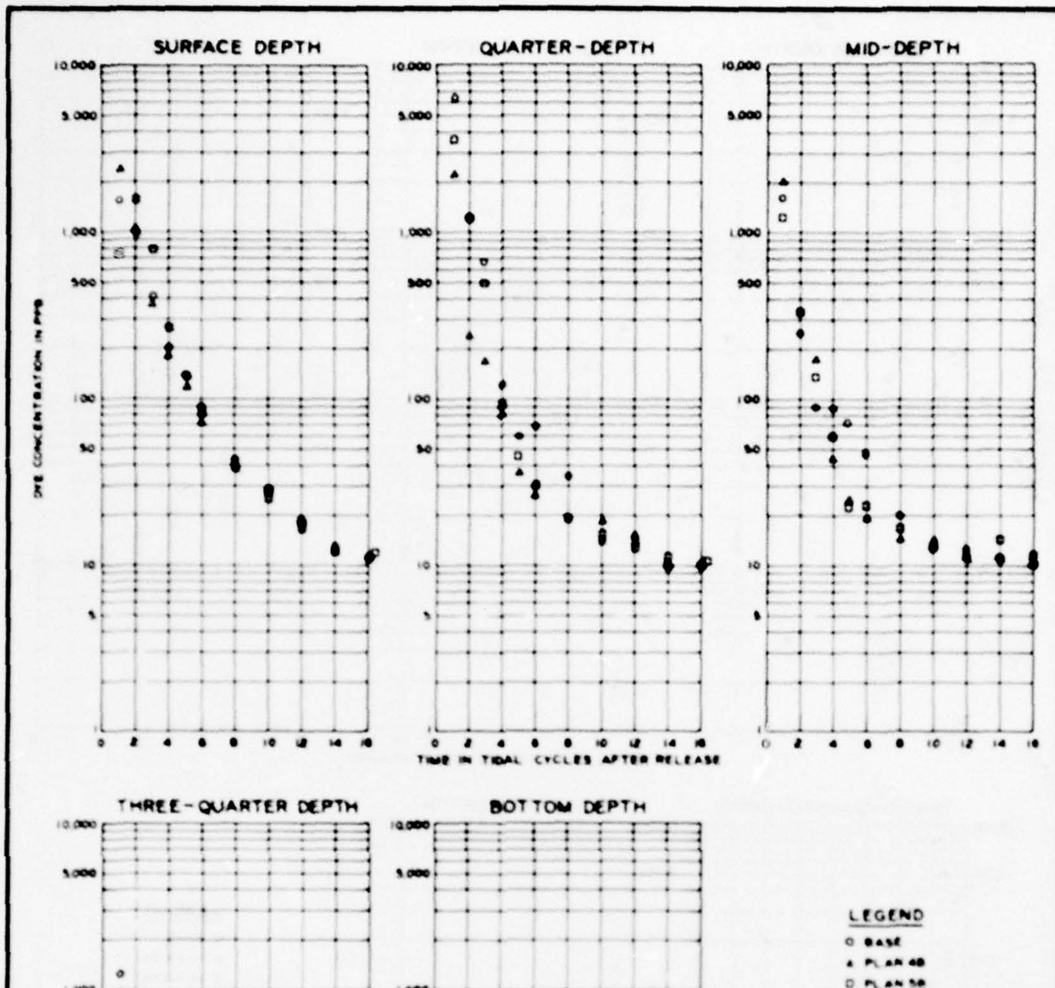
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-L



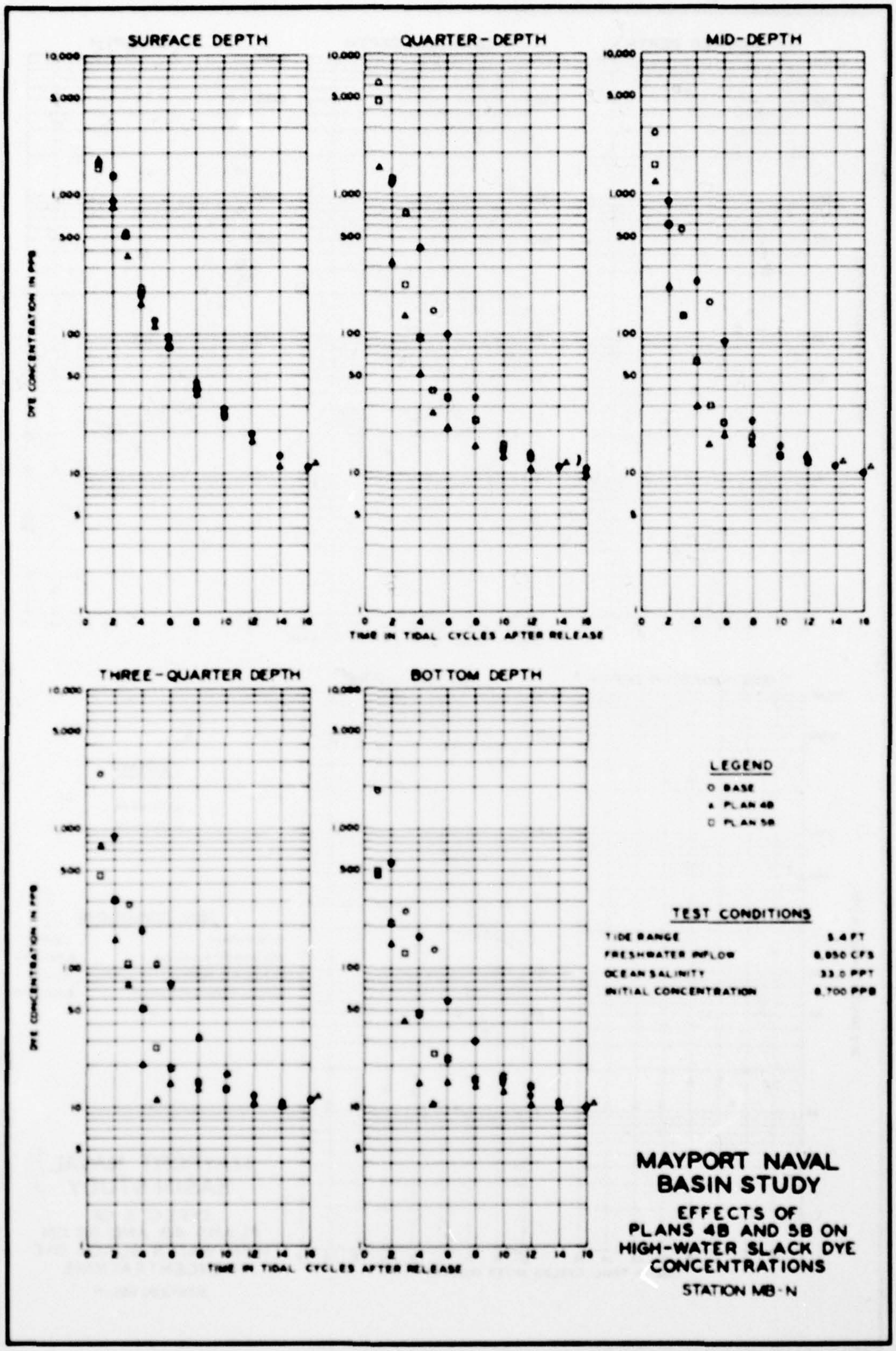
TEST CONDITIONS

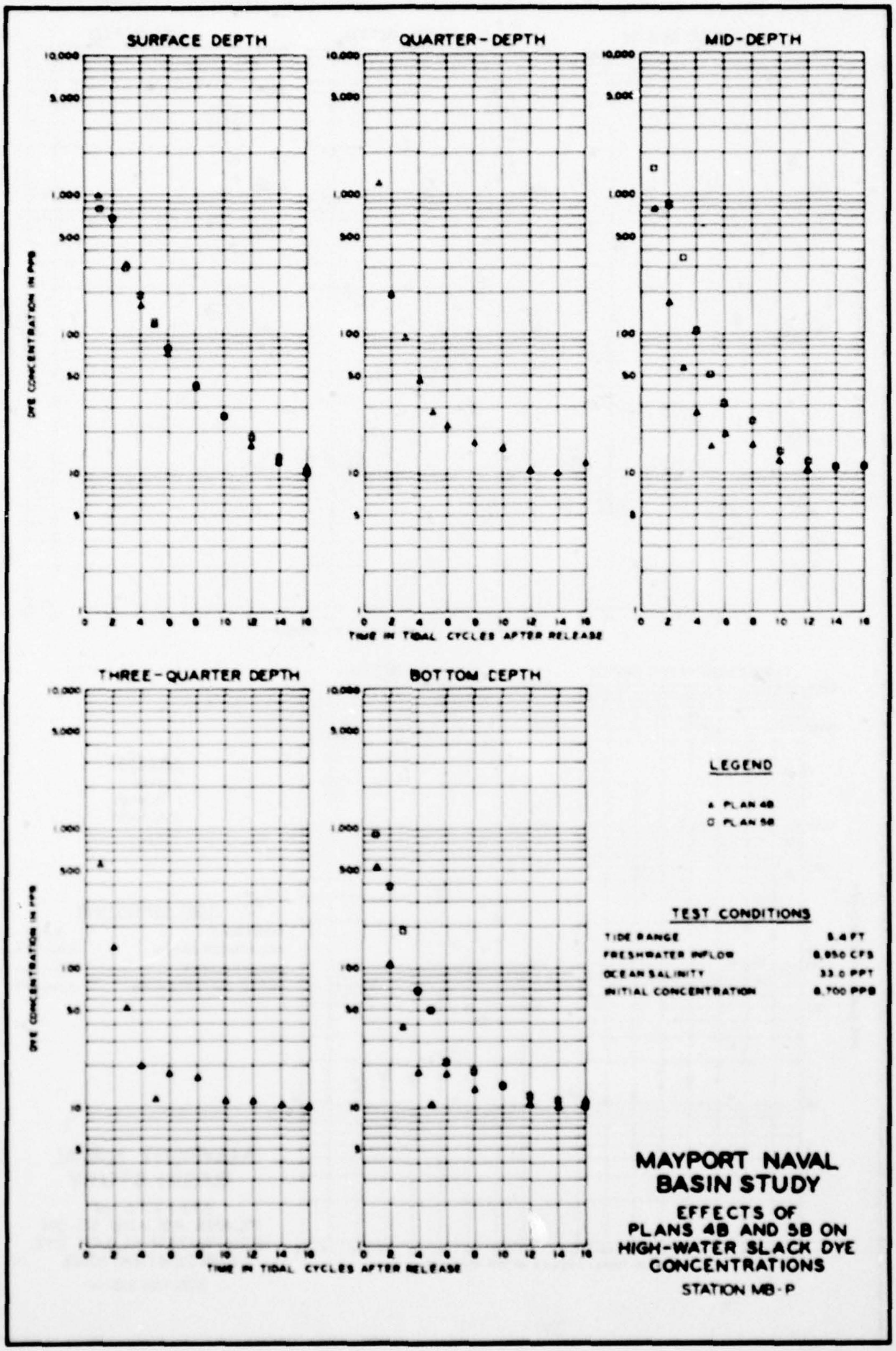
TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-M

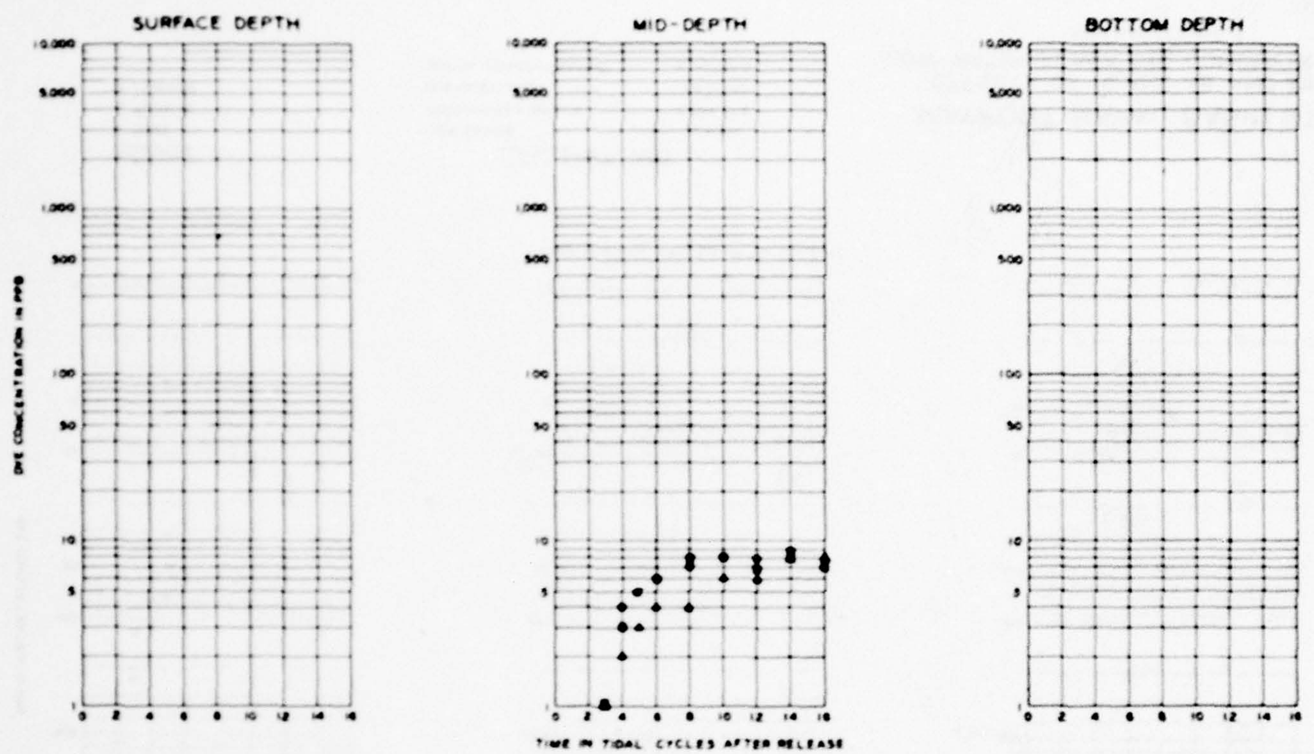

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
10,000
5,000
1,000
500
100
50
10
5
1
0 2 4 6 8 10 12 14 16
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
○ BASE
△ PLAN 4B
□ PLAN 5B
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS
STATION MB-N



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON HIGH-WATER SLACK DYE CONCENTRATIONS

STATION MB-P



LEGEND

O BASE
△ PLAN 4B
□ PLAN 5B

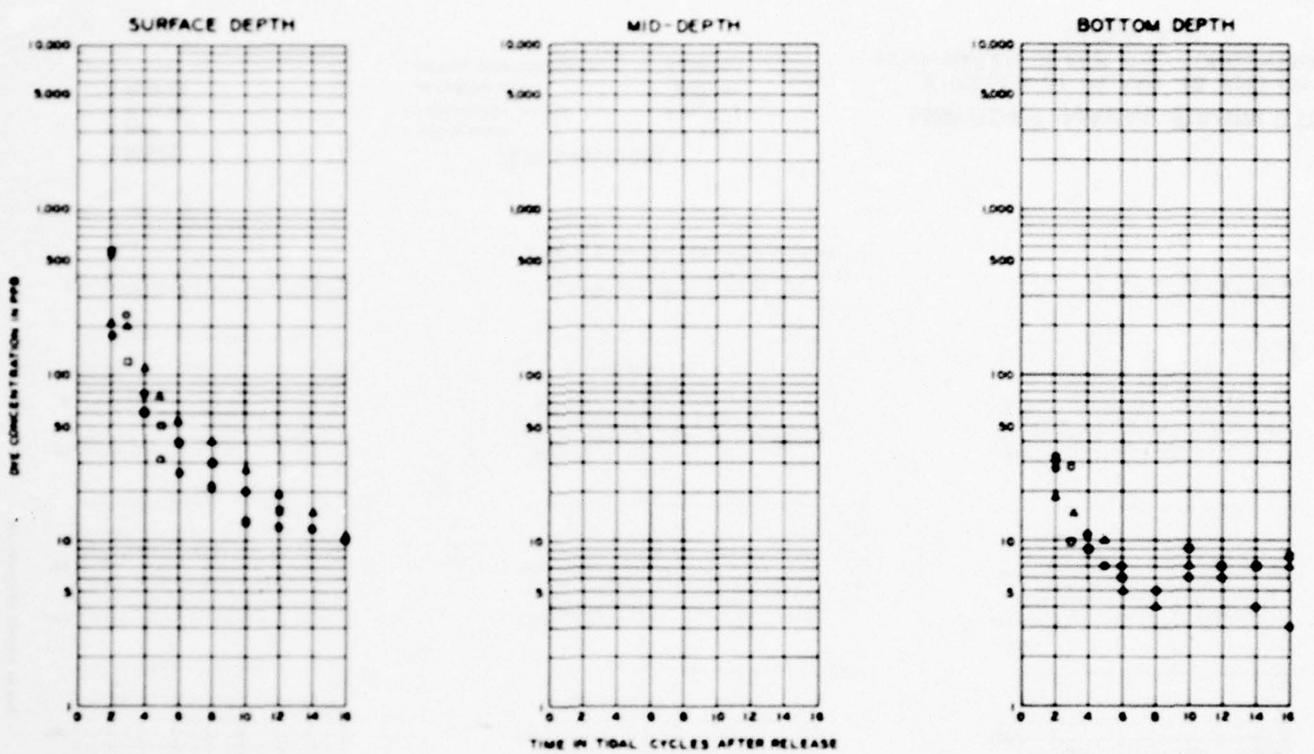
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION SUMP



LEGEND

- ○ BASE
- △ PLAN 4B
- □ PLAN 5B

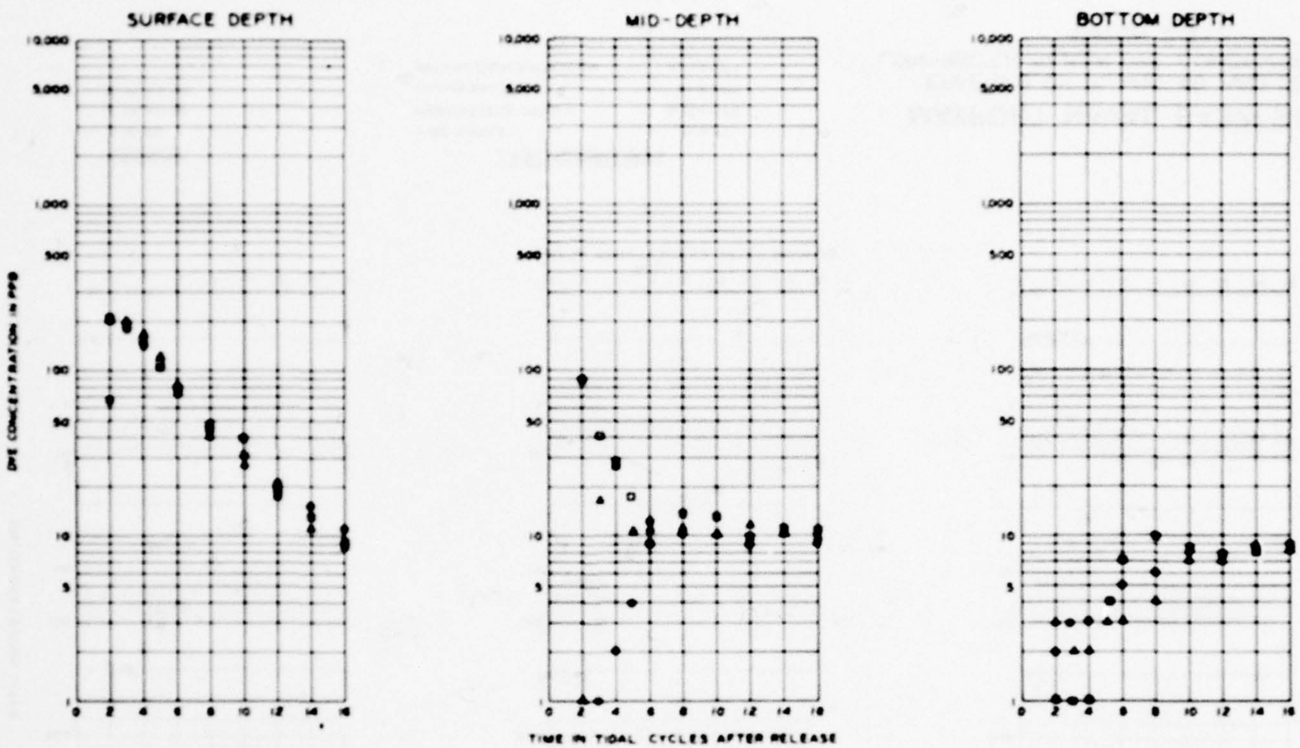
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION OCEAN



LEGEND

○ BASE
△ PLAN 4B
□ PLAN 5B

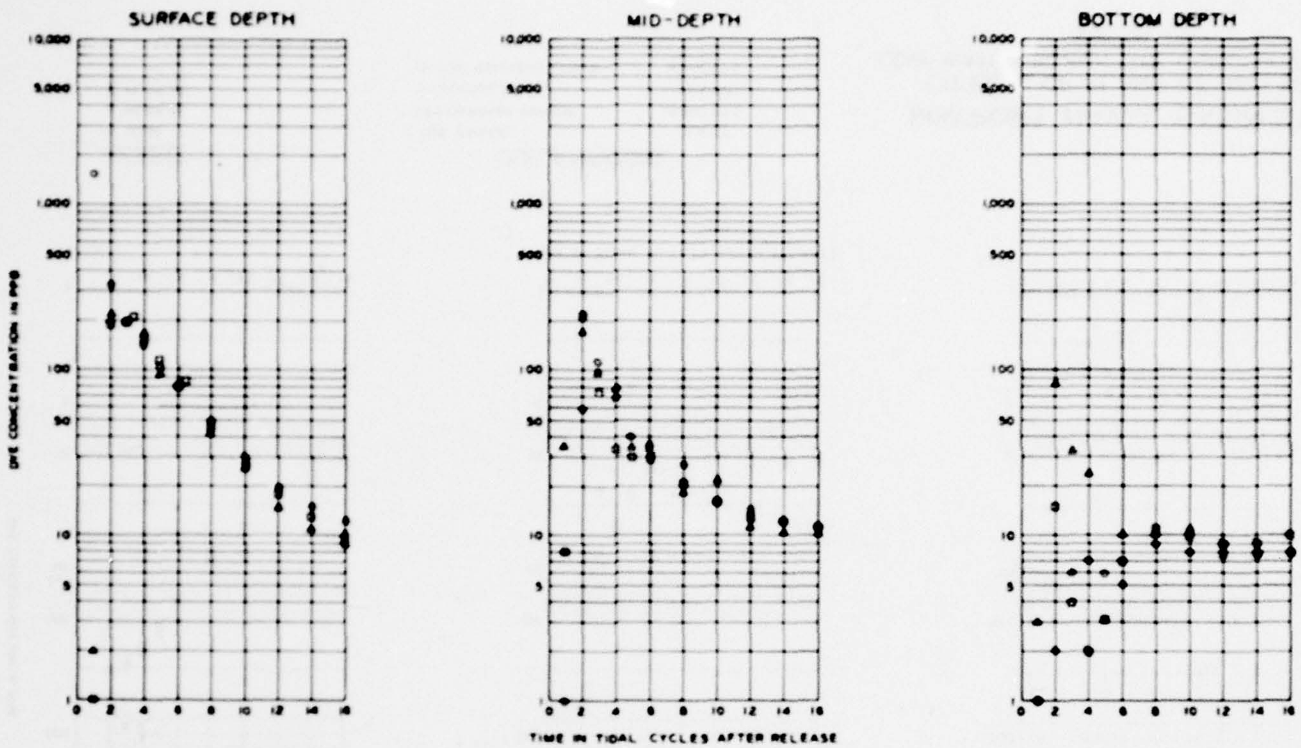
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	6,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION Y-A



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

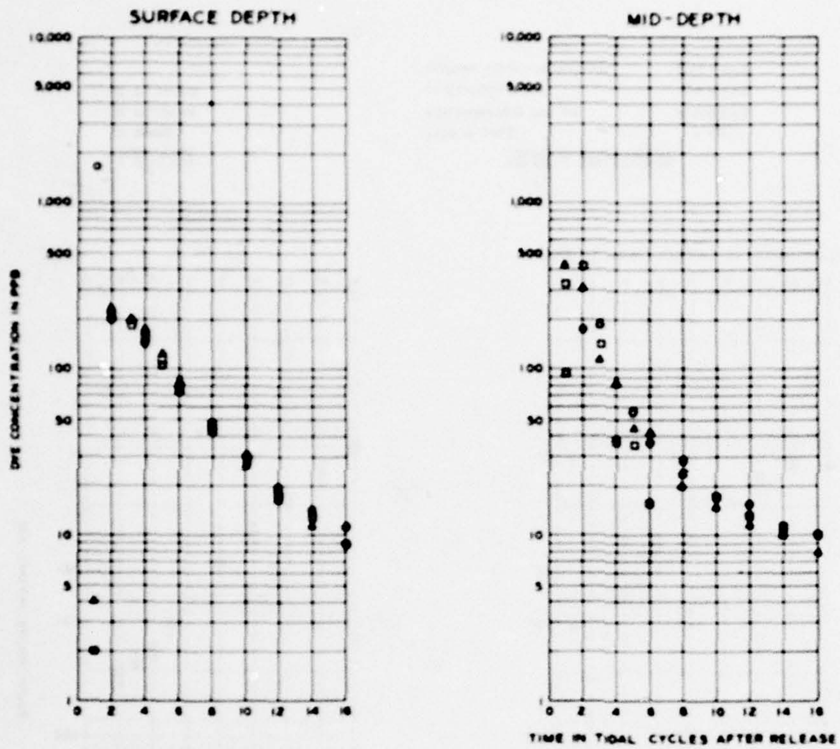
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION Z-B



LEGEND

- O BASE
- ▲ PLAN 4B
- □ PLAN 5B

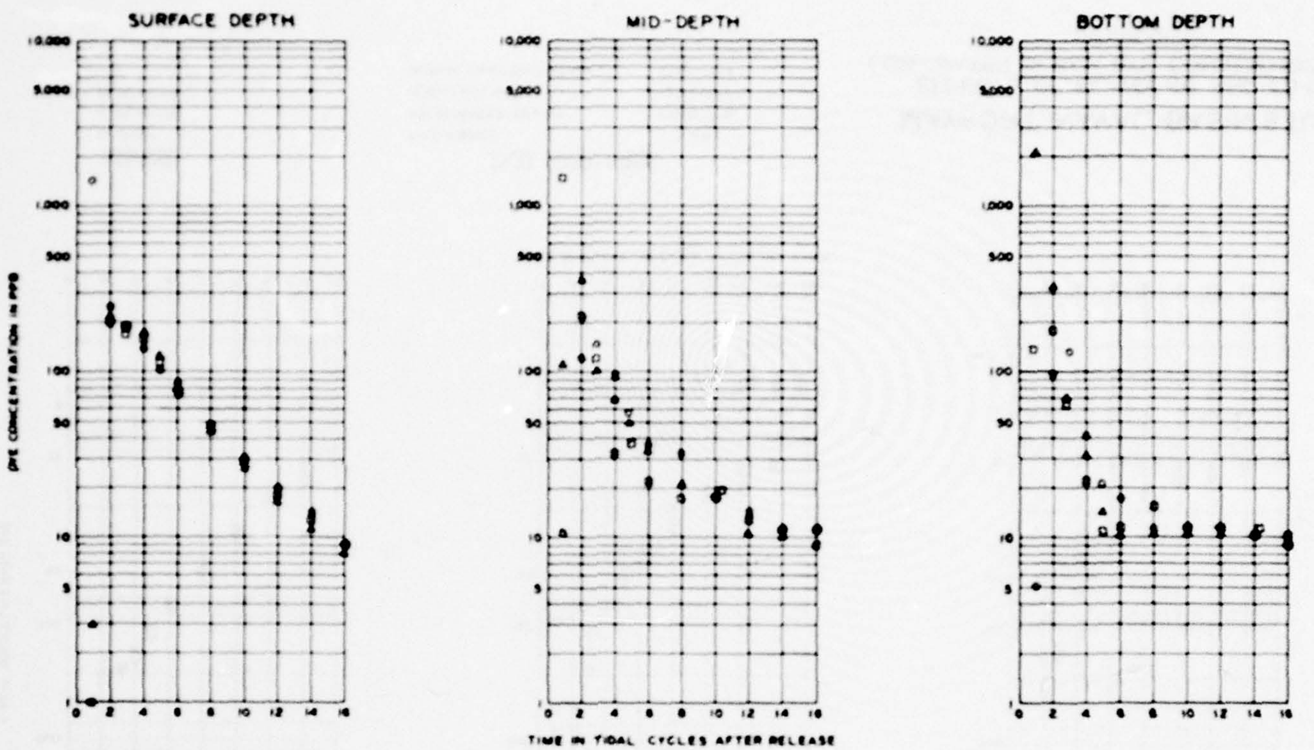
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	6,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION O-A



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

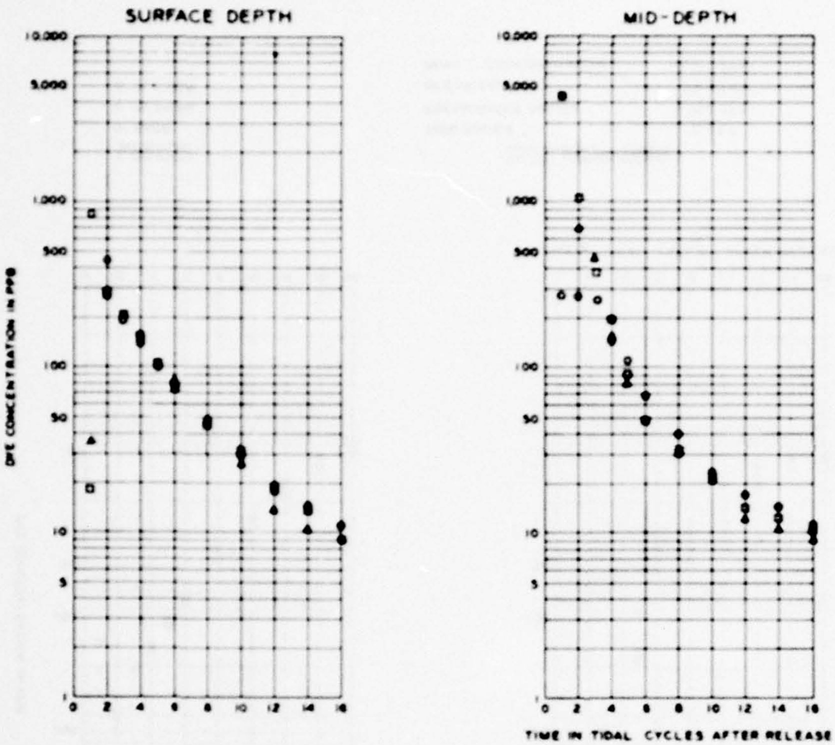
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON
LOW-WATER SLACK DYE CONCENTRATIONS

STATION O-B



LEGEND

○ BASE
△ PLAN 4B
□ PLAN 5B

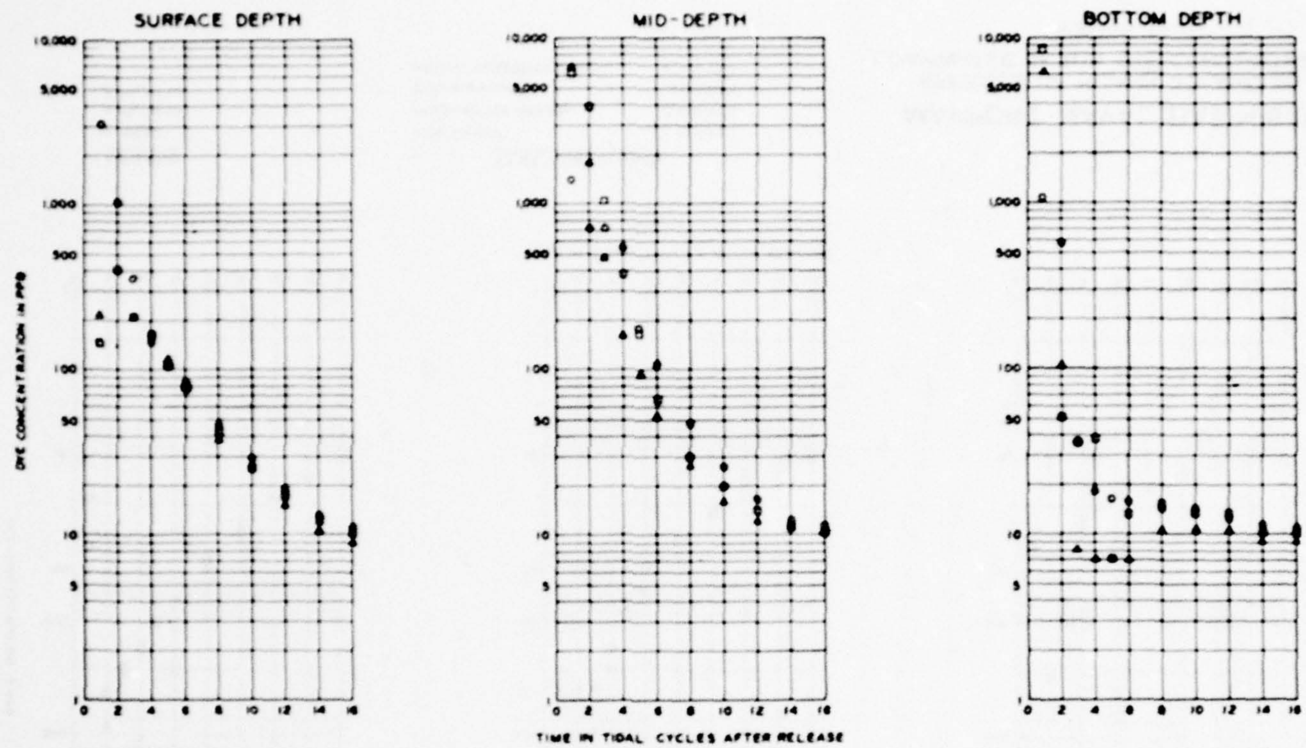
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	6,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION OA-A



LEGEND

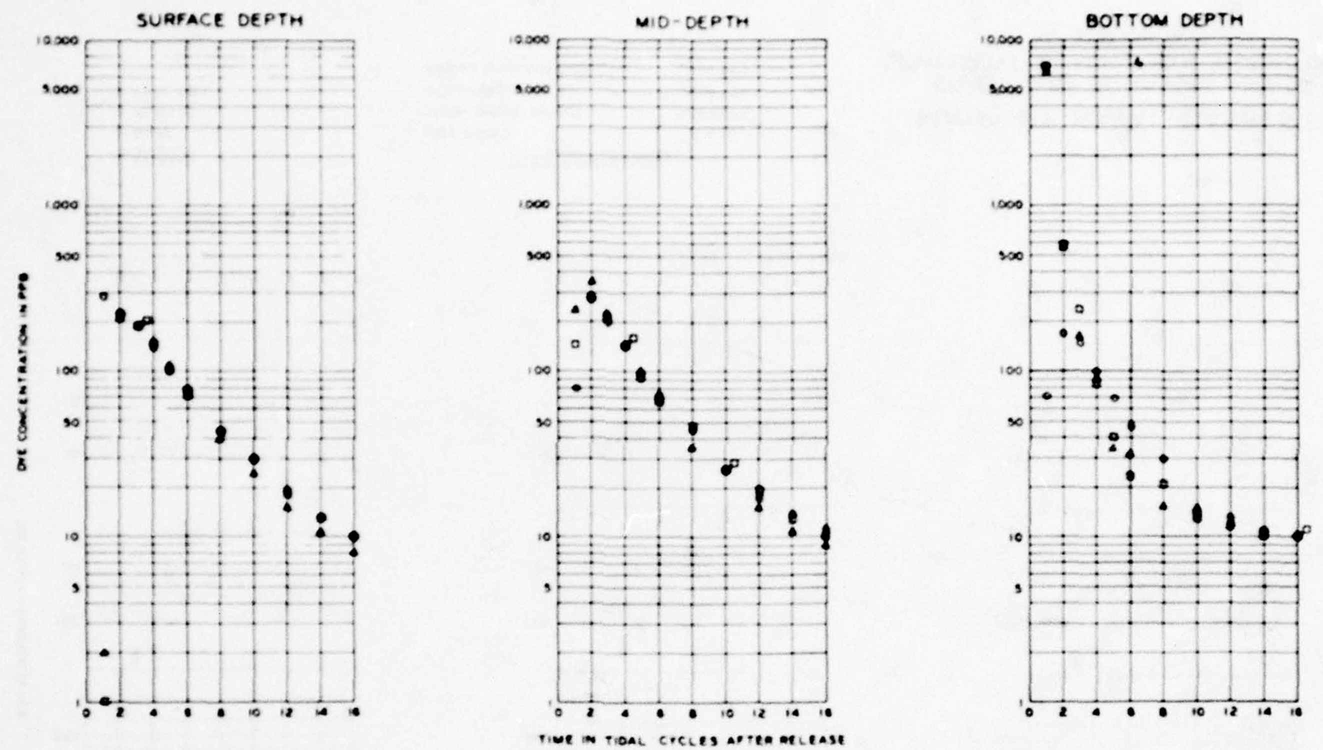
○ BASE
△ PLAN 4B
□ PLAN 5B

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON
LOW-WATER SLACK DYE CONCENTRATIONS
STATION OB-A



LEGEND

- ○ BASE
- △ PLAN 4B
- □ PLAN 5B

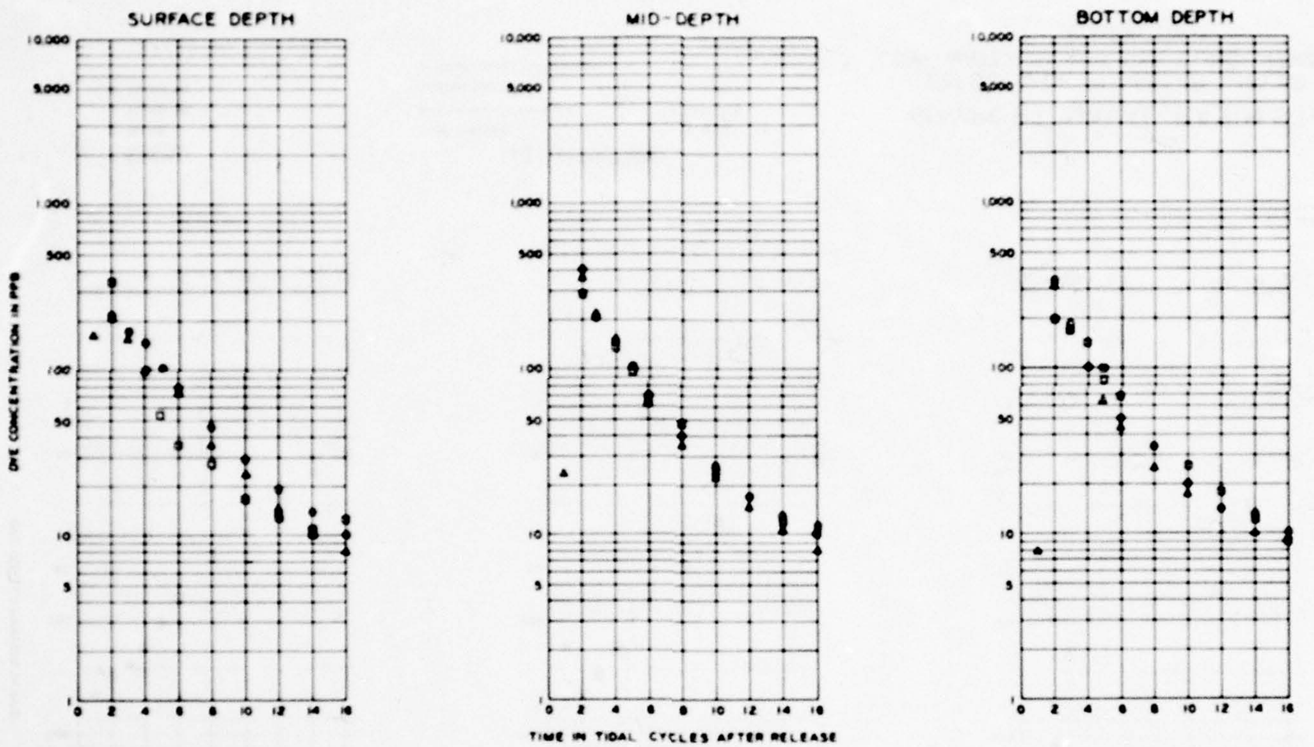
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION OB-C



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

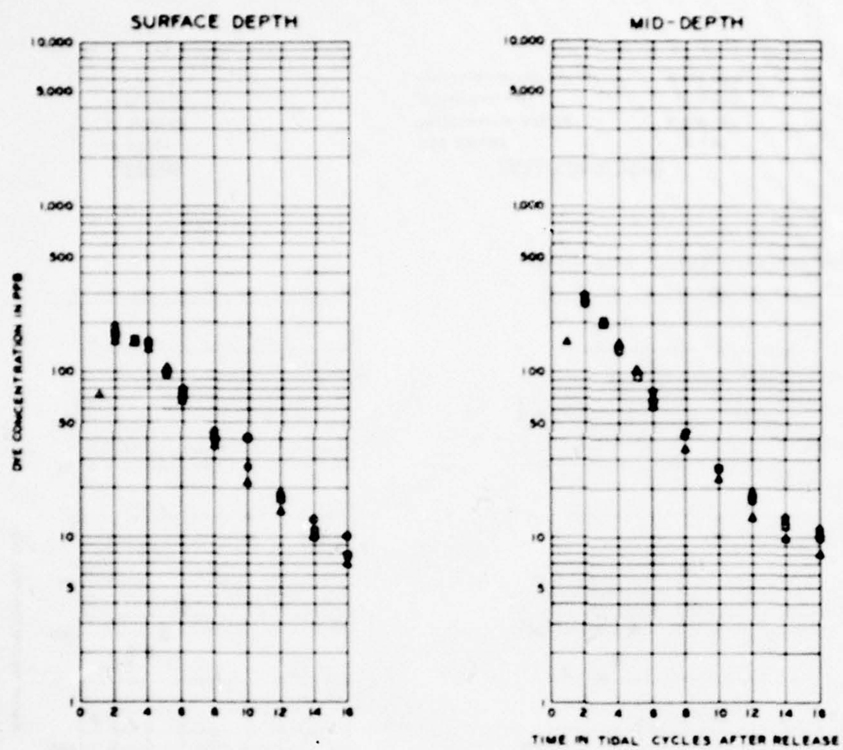
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 1A-B



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 2A-A

AD-A077 046 ARMY ENGINEER WATERWAYS EXPERIMENT STATION VICKSBURG MS F/G 8/8
MAYPORT-MILL COVE MODEL STUDY. REPORT 2. MAYPORT NAVAL BASIN ST--ETC(U)
AUG 79 N J BROGDON
UNCLASSIFIED WES-TR-HL-79-12 NL

5 OF 5
AD-
A077046

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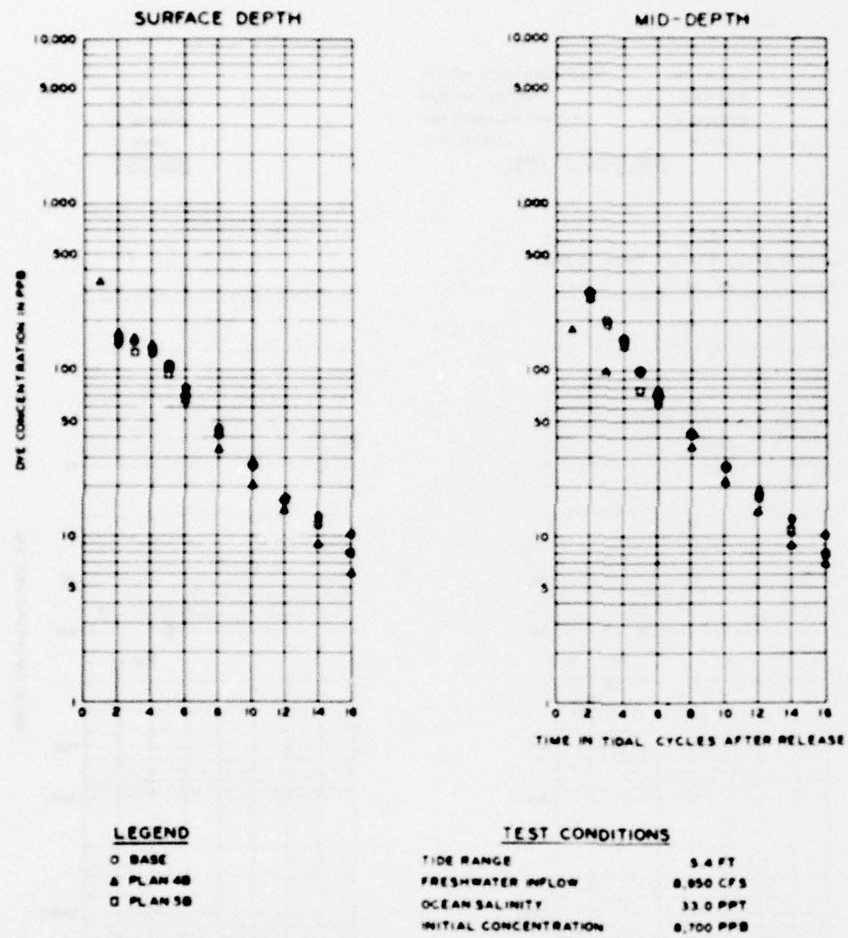
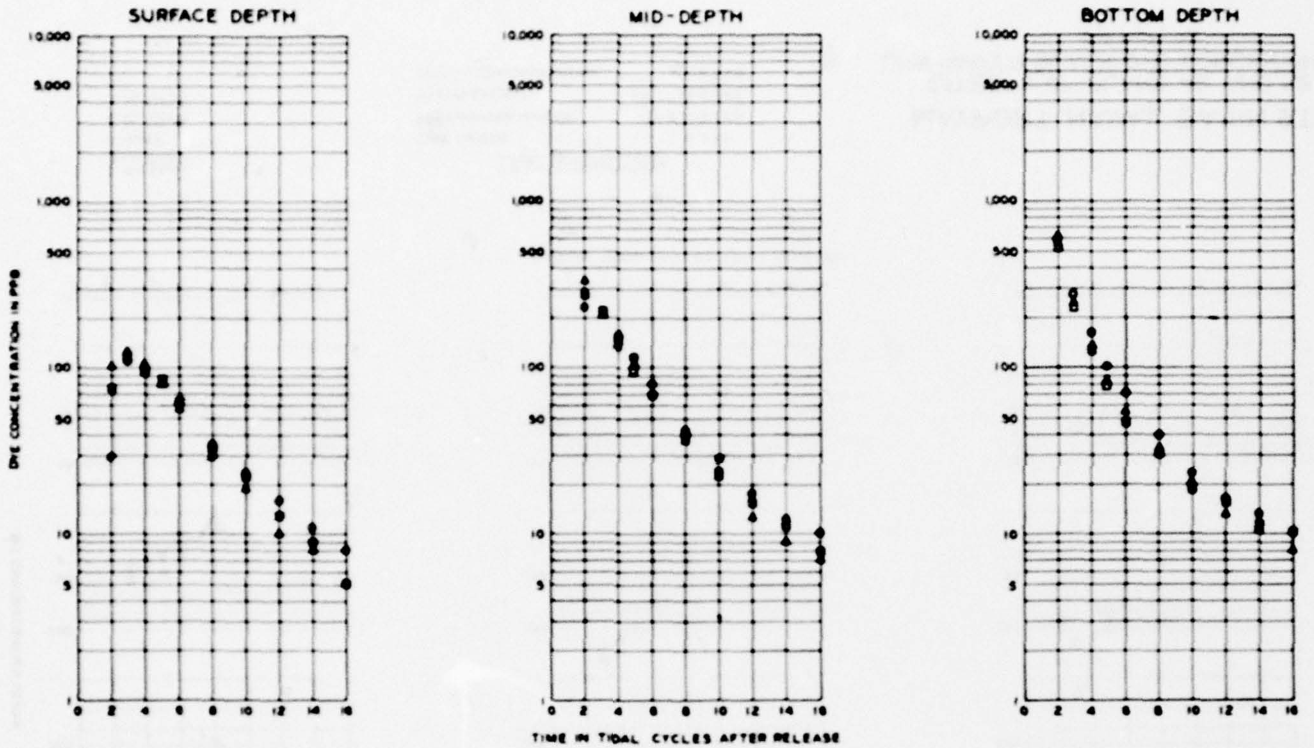


MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON
LOW-WATER SLACK DYE CONCENTRATIONS
STATION 3A

PLATE 278



LEGEND

○ BASE
△ PLAN 4B
□ PLAN 5B

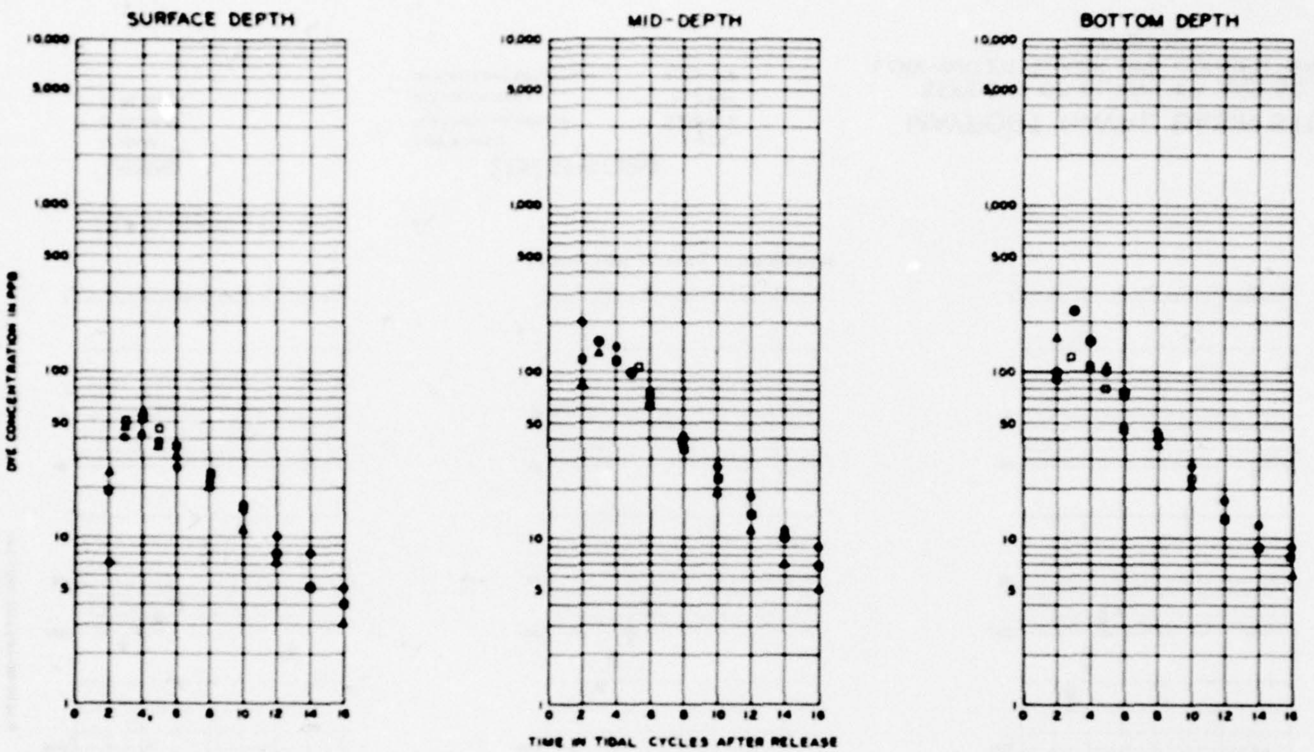
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 5A



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

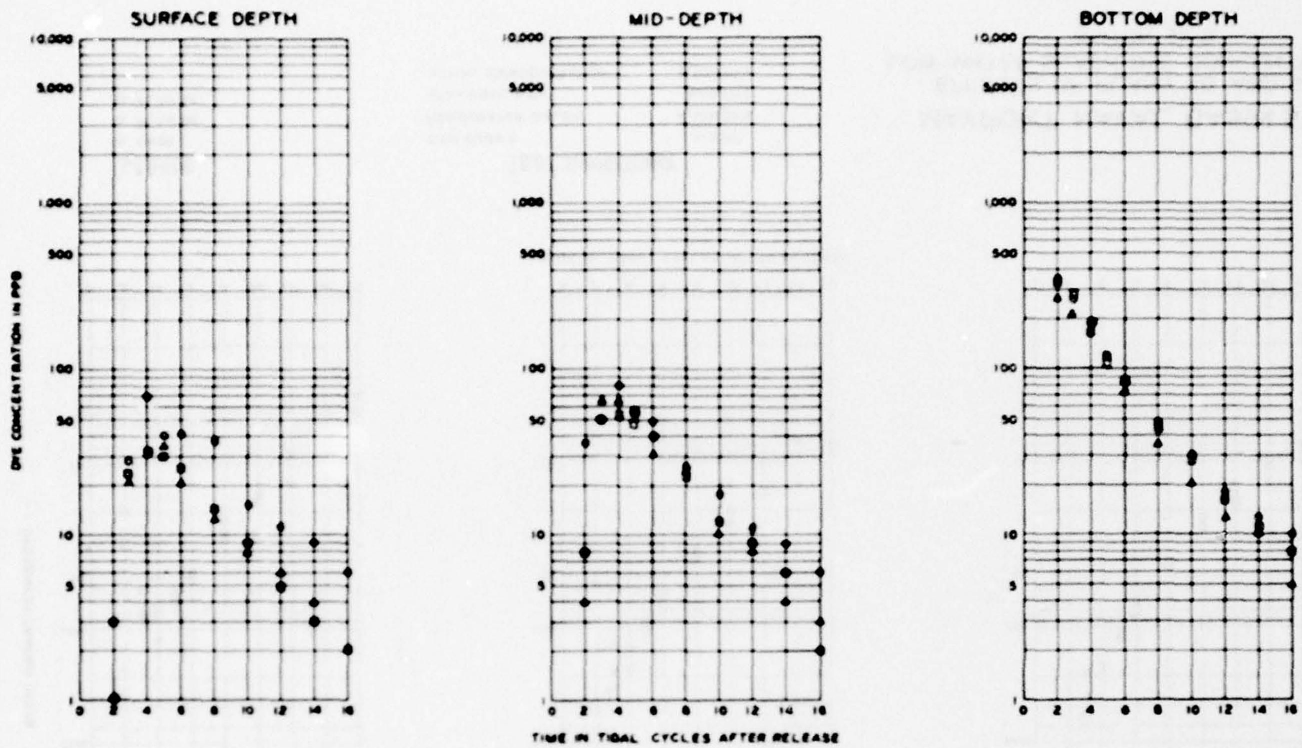
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 7B



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

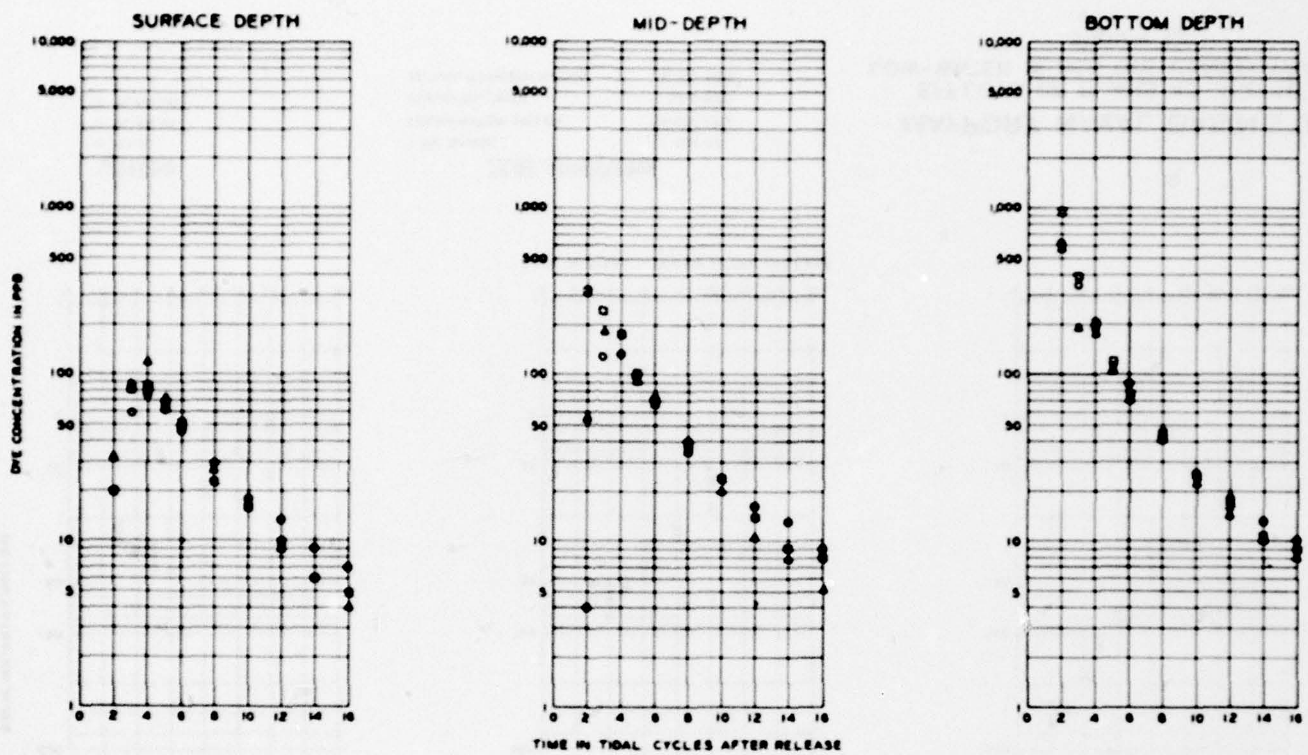
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 9B



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

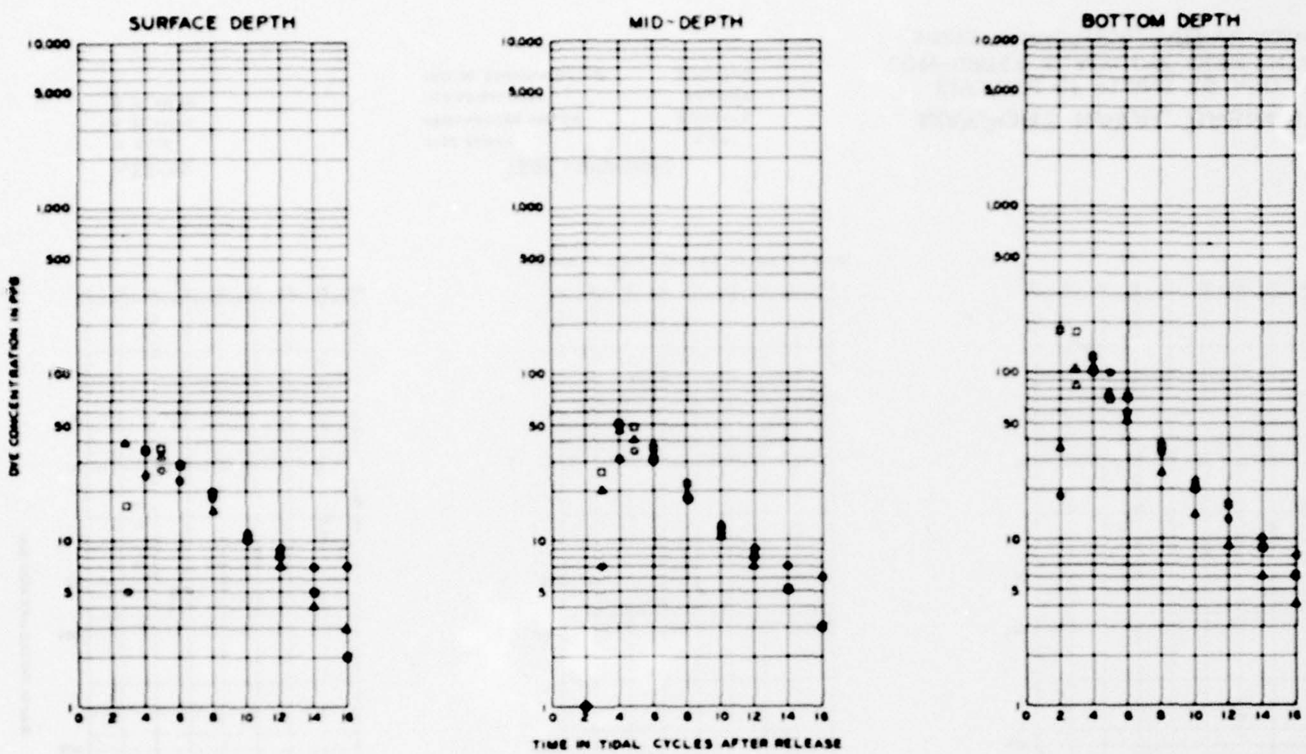
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 9A-B



LEGEND

- ○ BASE
- △ PLAN 4B
- □ PLAN 5B

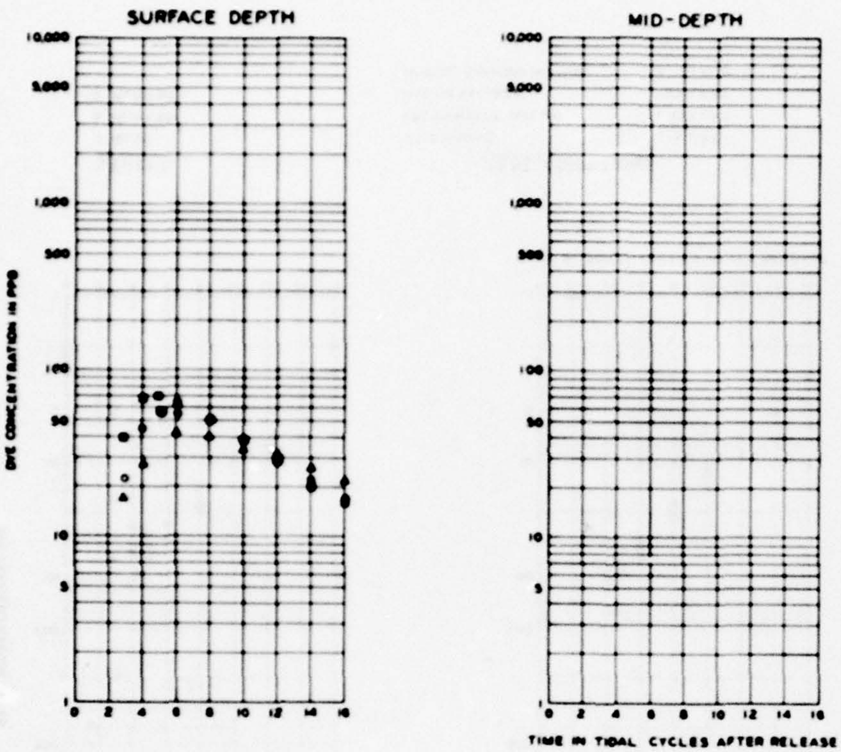
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,950 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION 10-A



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

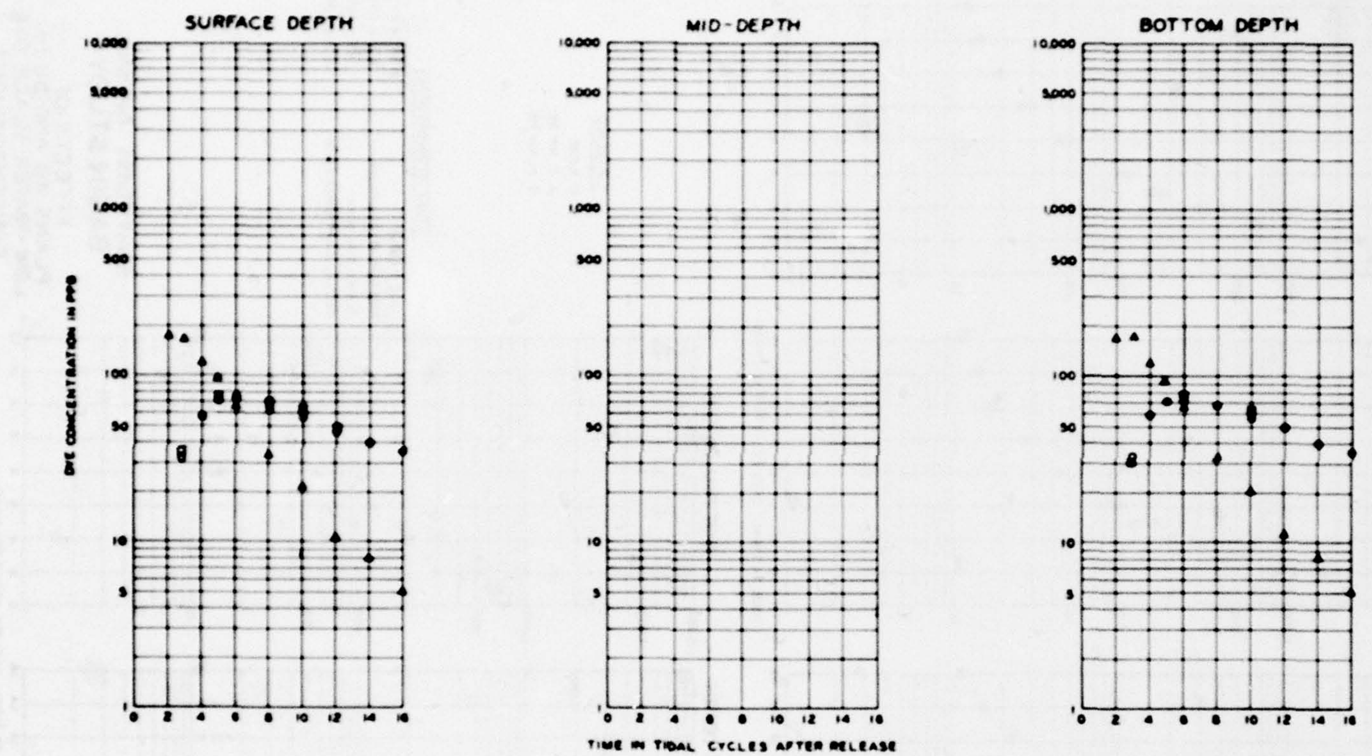
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION INTRACOASTAL WATERWAY-NORTH (IW-N)



LEGEND

- O BASE
- △ PLAN 4B
- □ PLAN 5B

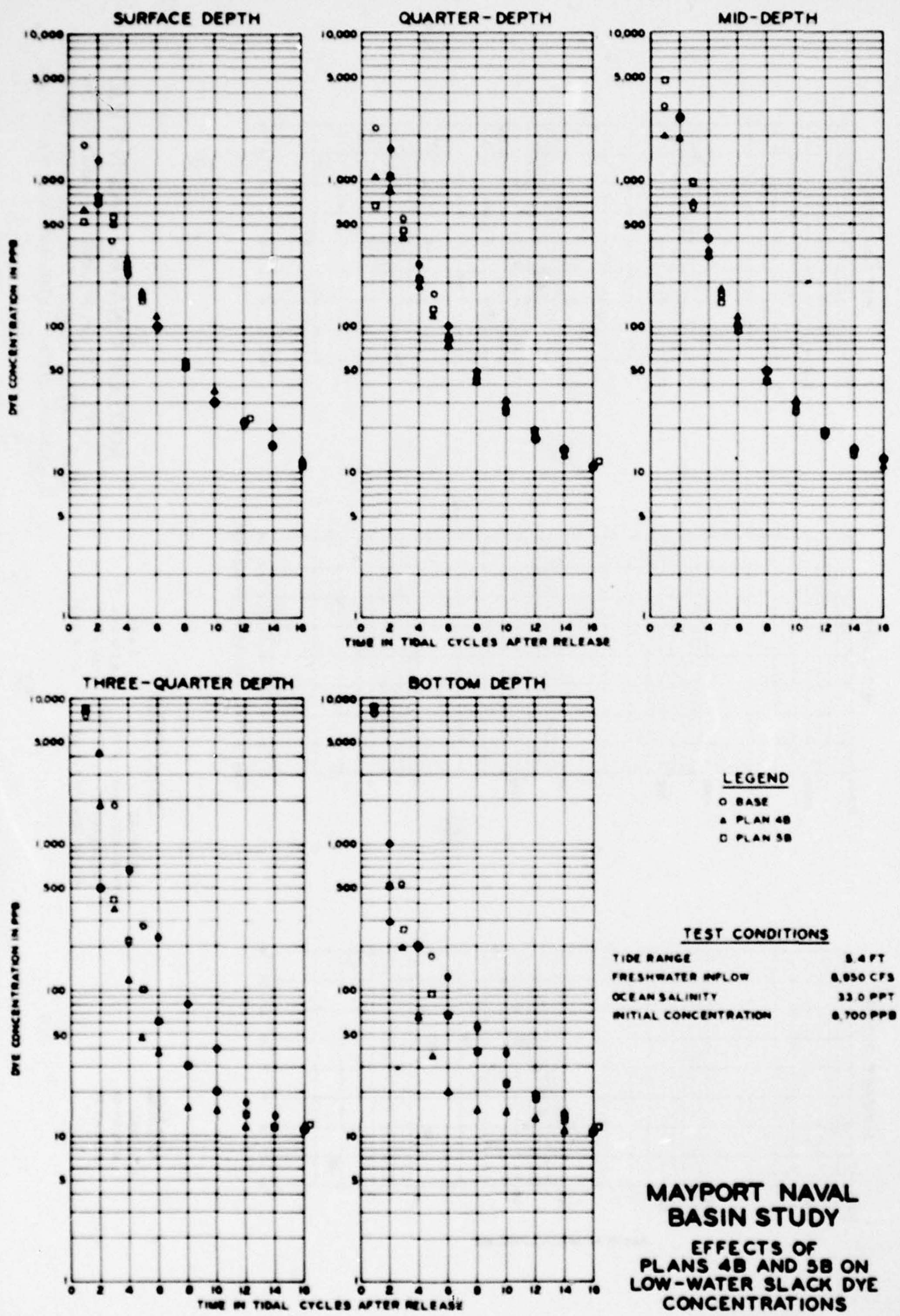
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION INTRACOASTAL WATERWAY-SOUTH (IW-S)

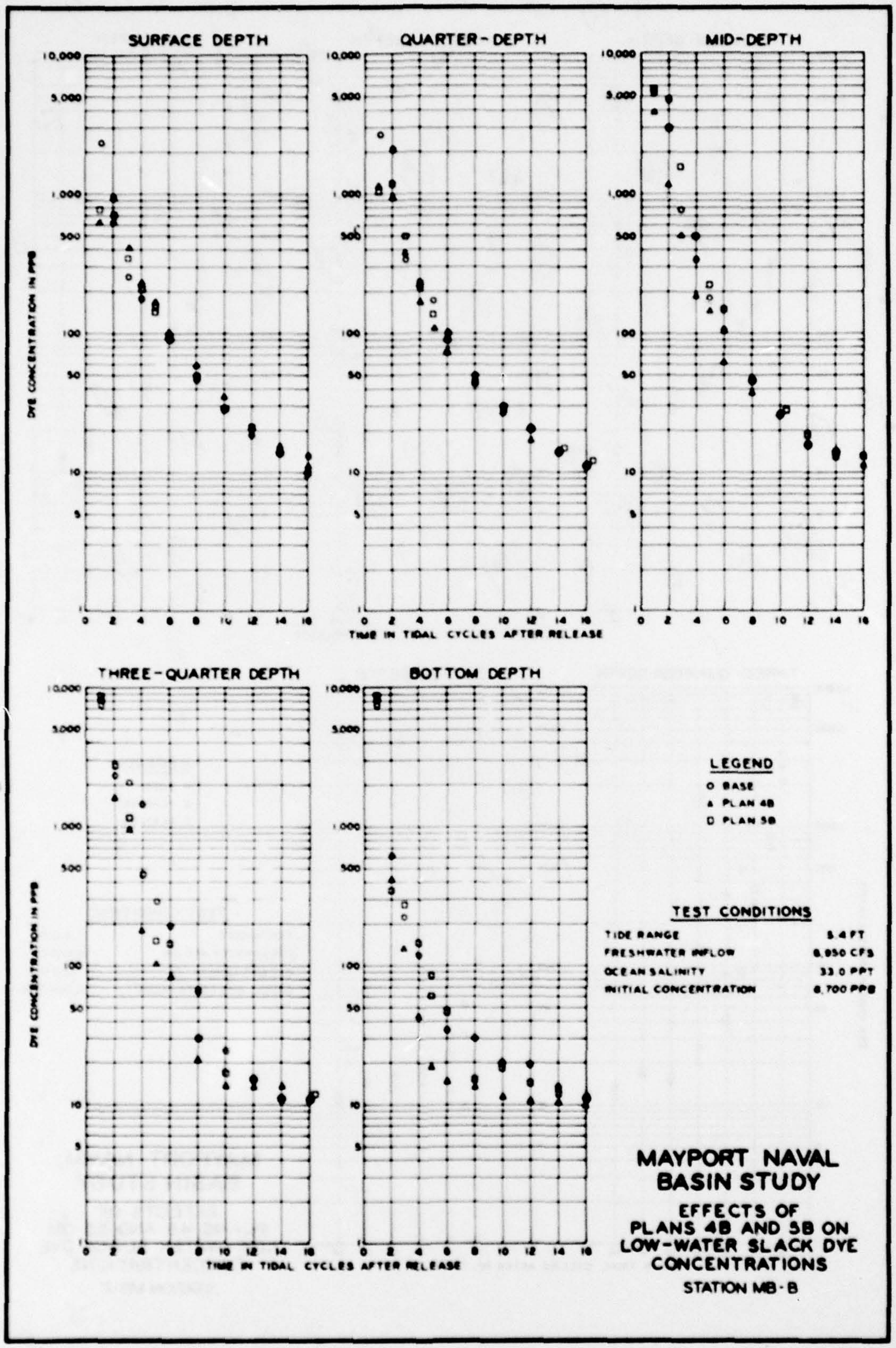


MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-A

PLATE 286

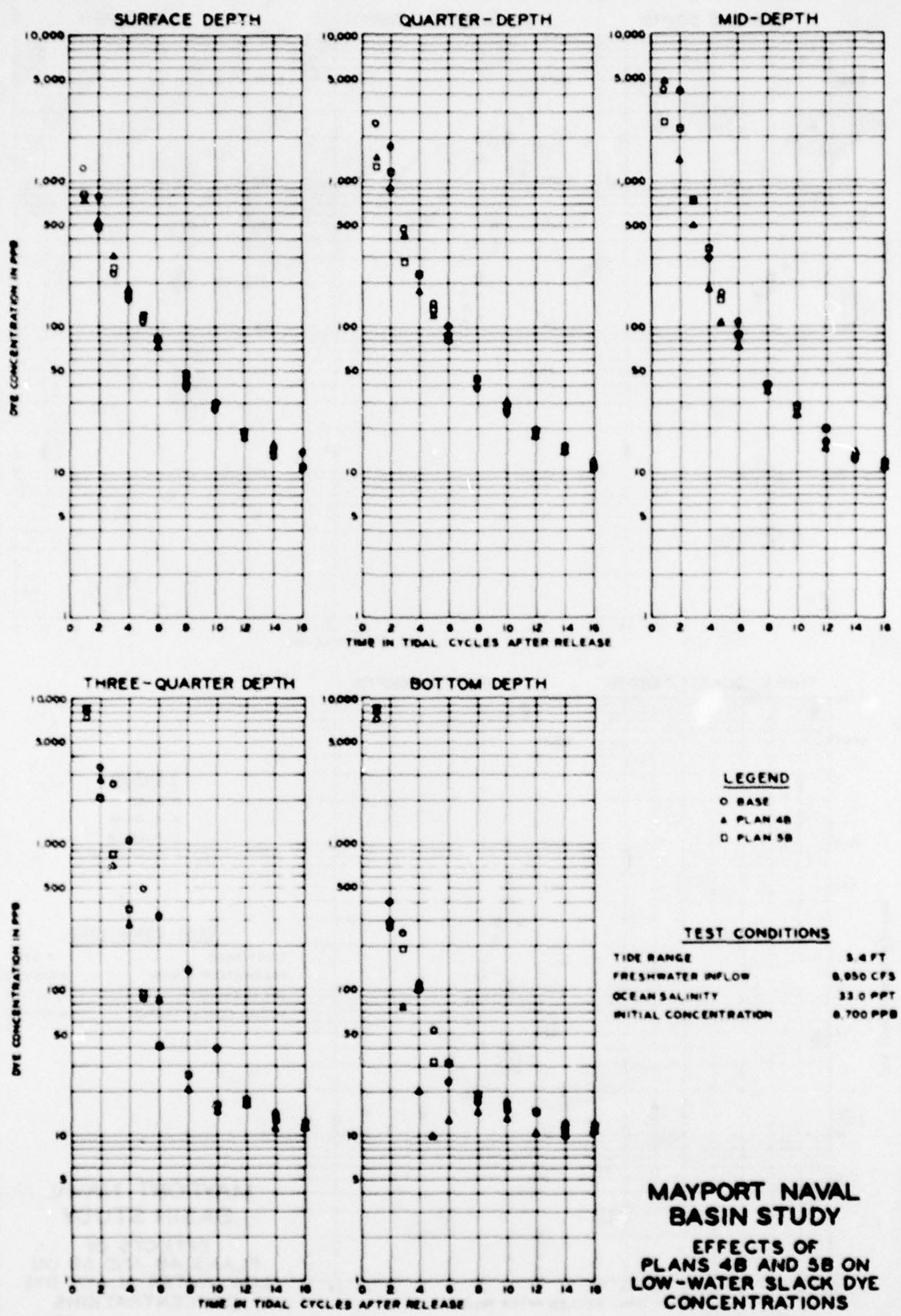


MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-B

PLATE 287



TEST CONDITIONS

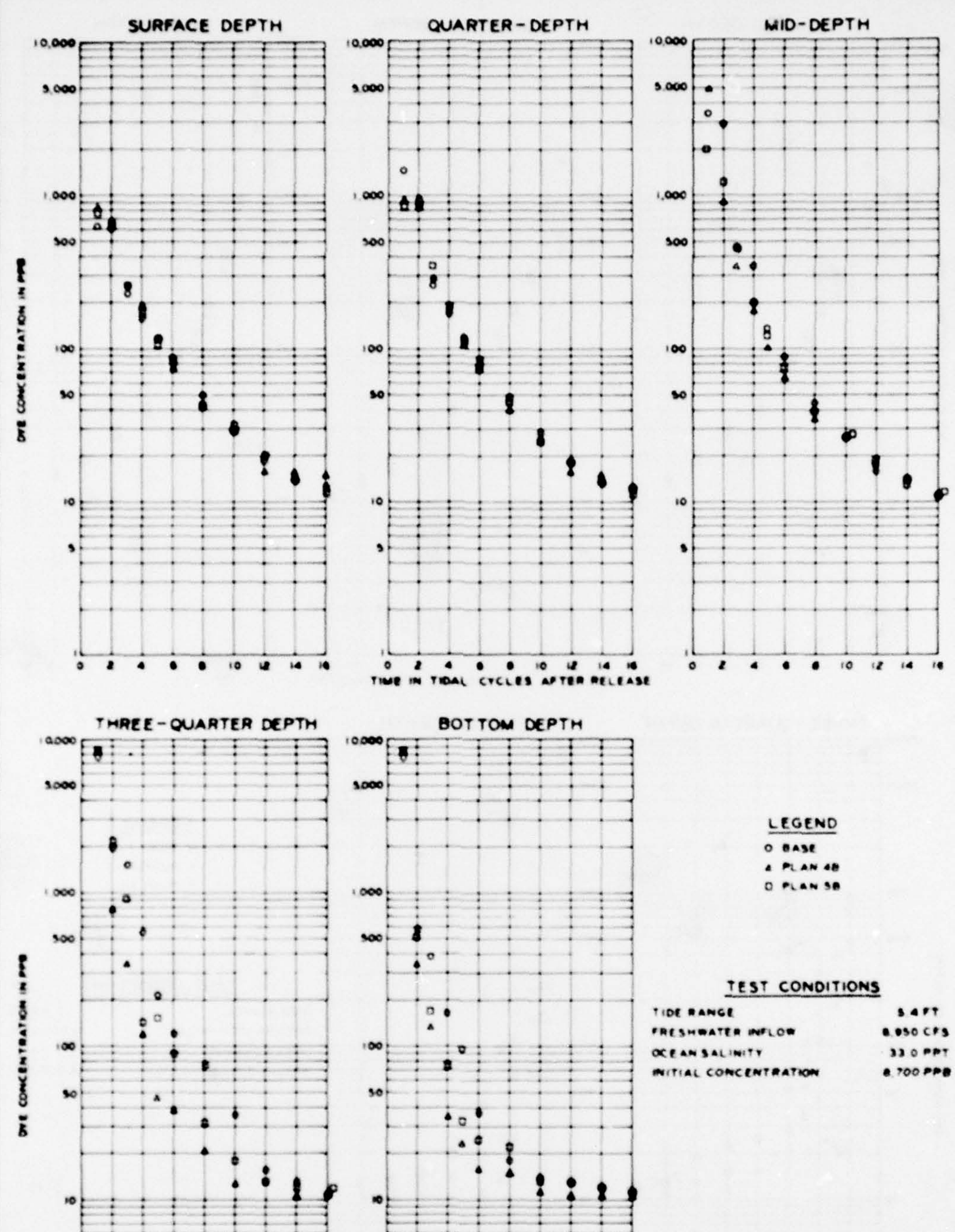
TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-C

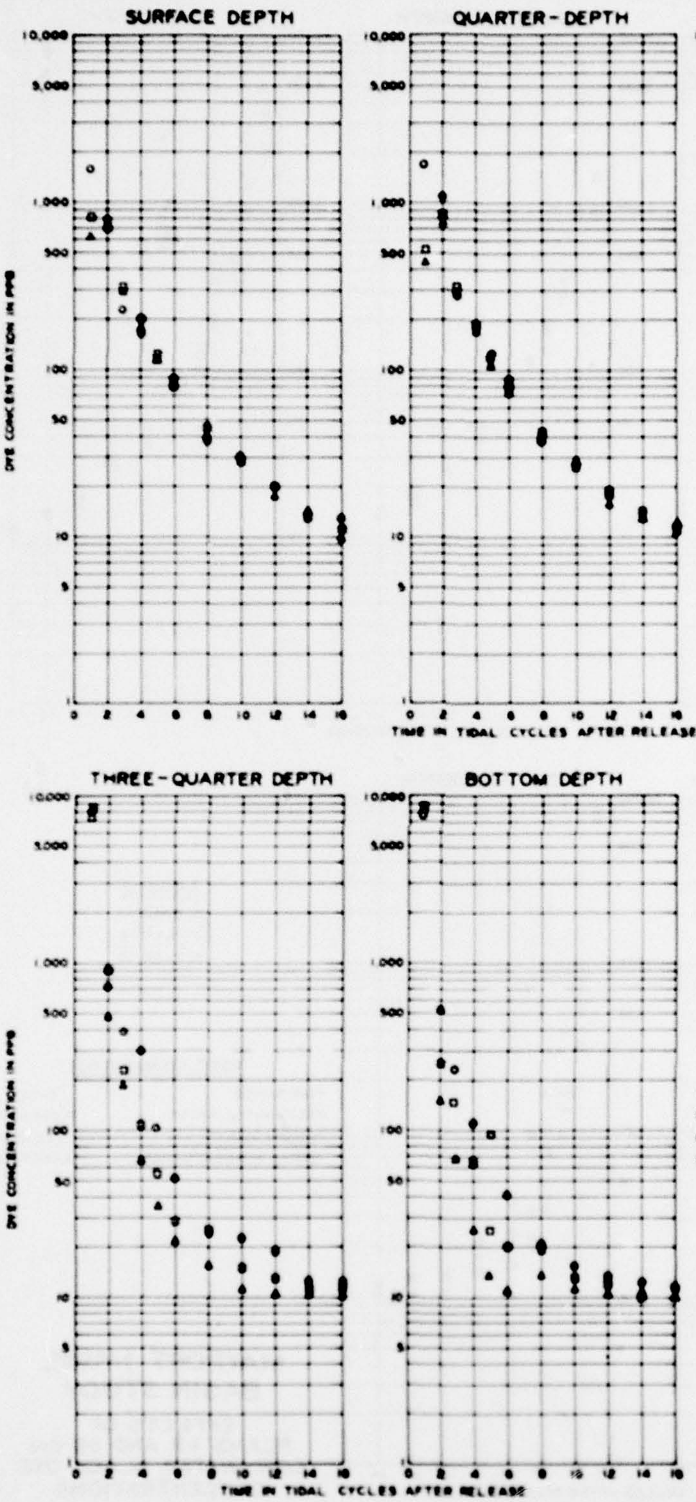
PLATE 288



MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-D



LEGEND

- ○ BASE
- △ PLAN 4B
- □ PLAN 5B

TEST CONDITIONS

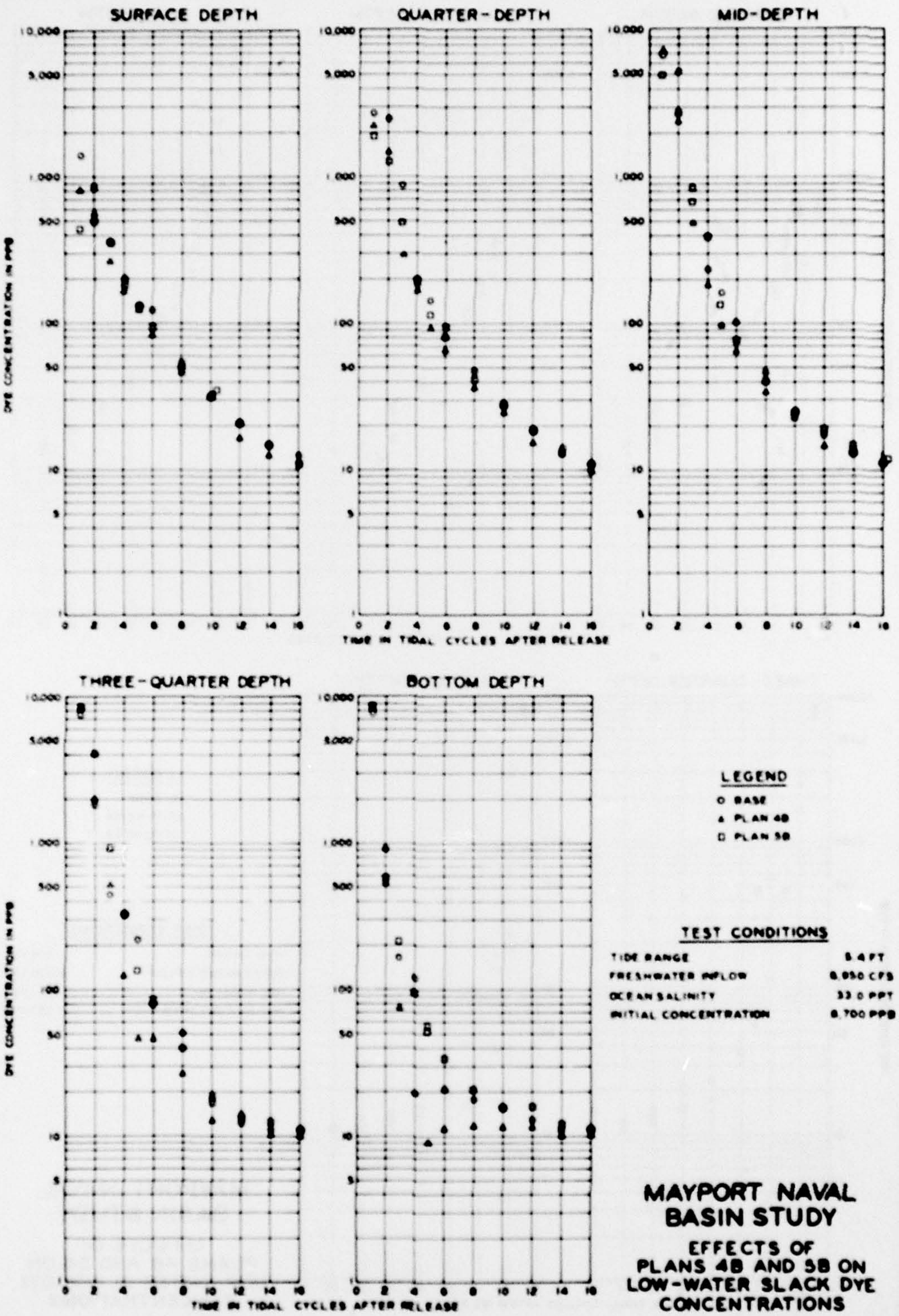
TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-E

PLATE 290



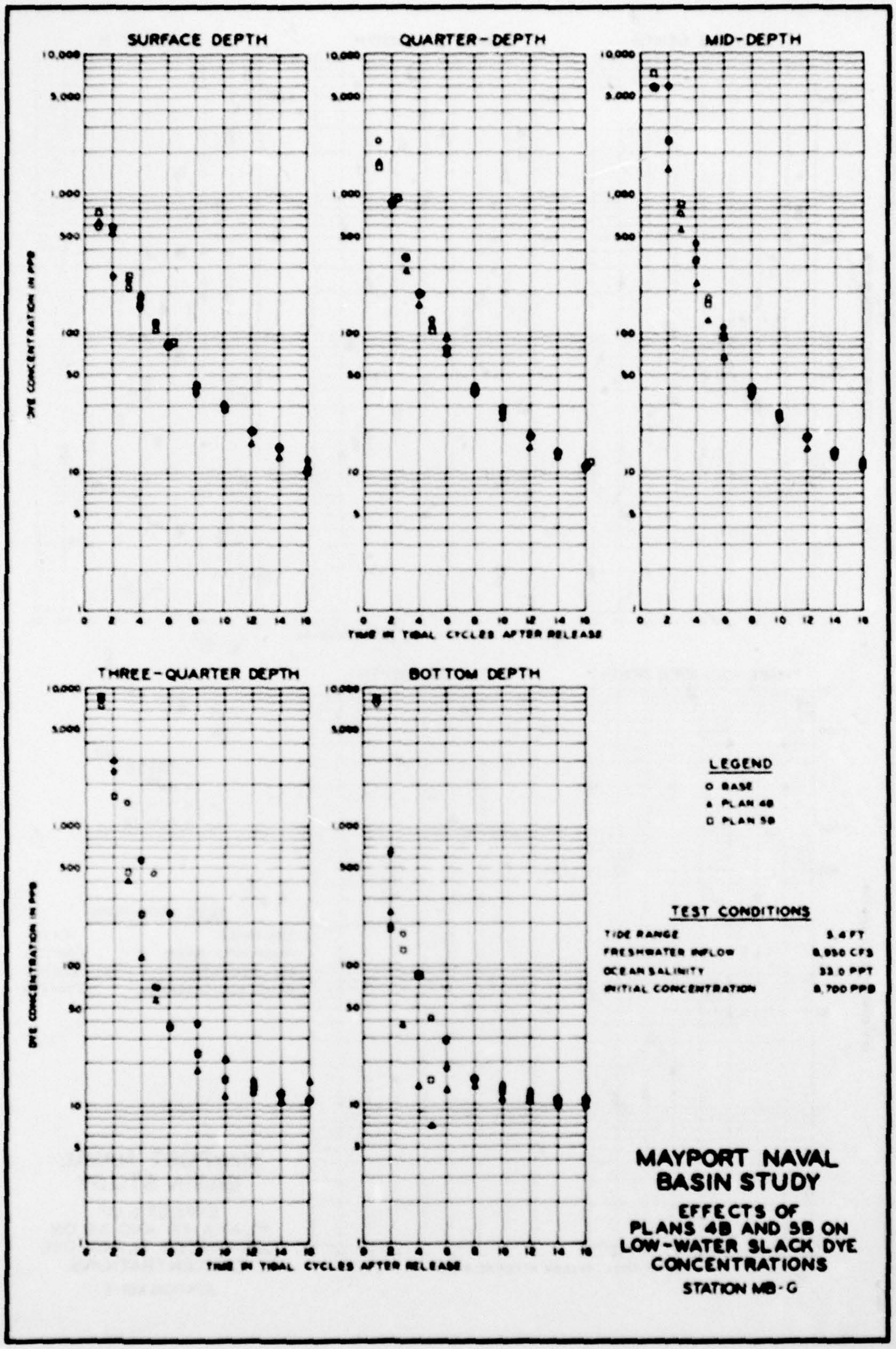
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-F

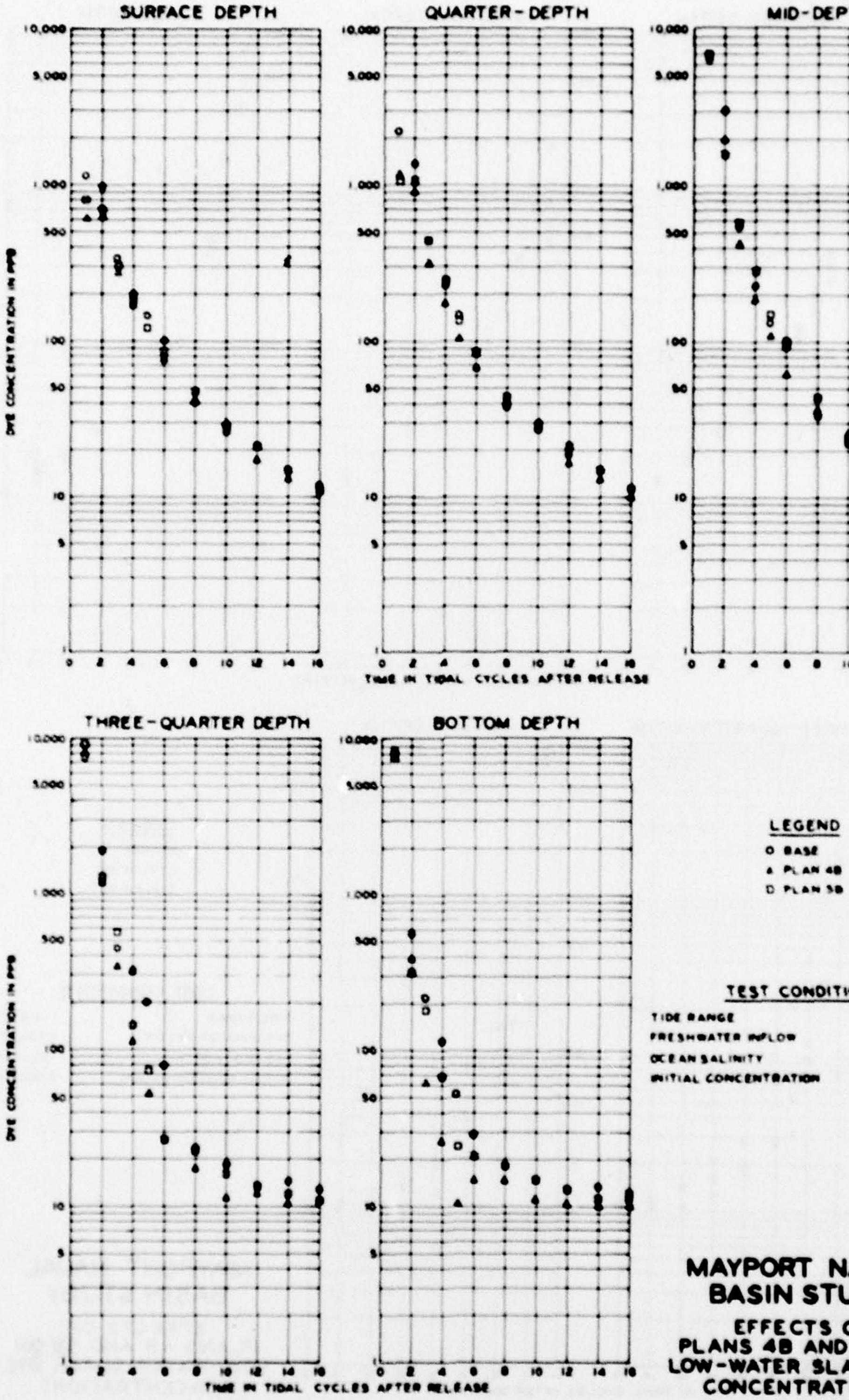


MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-G

PLATE 292



TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-H

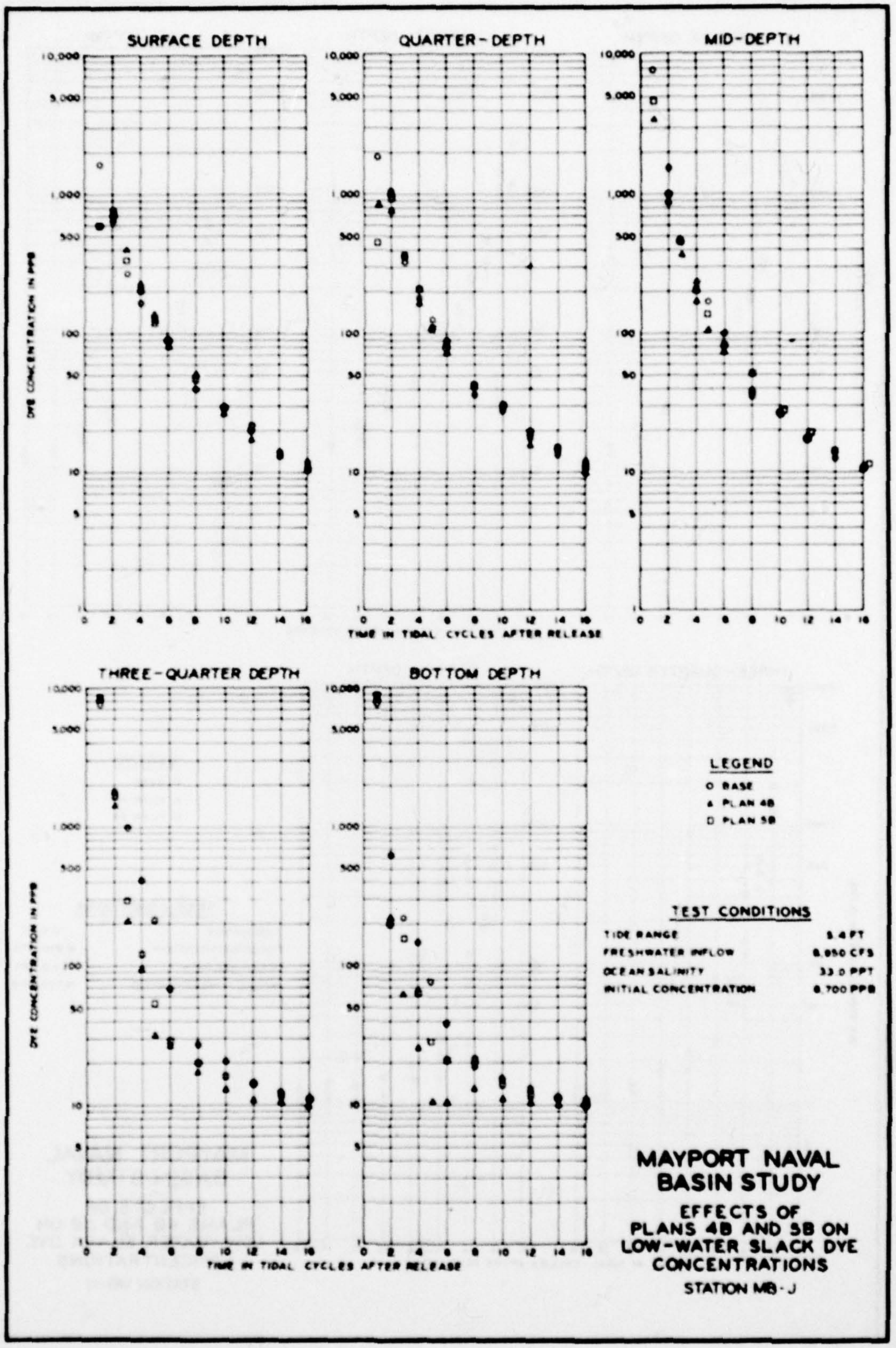

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
O BASE
▲ PLAN 4B
□ PLAN 5B
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,050 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS
STATION MB-J

PLATE 294

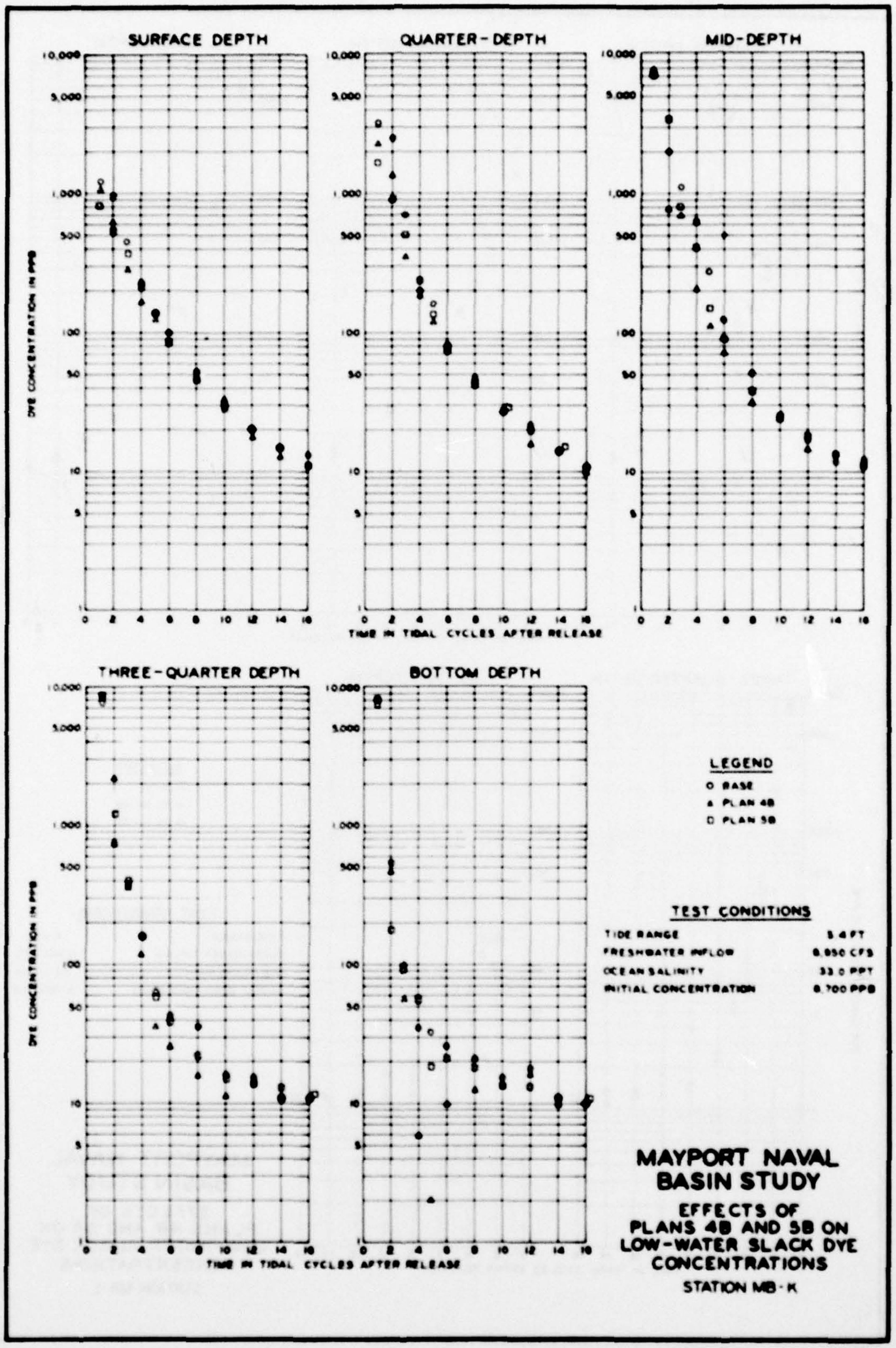
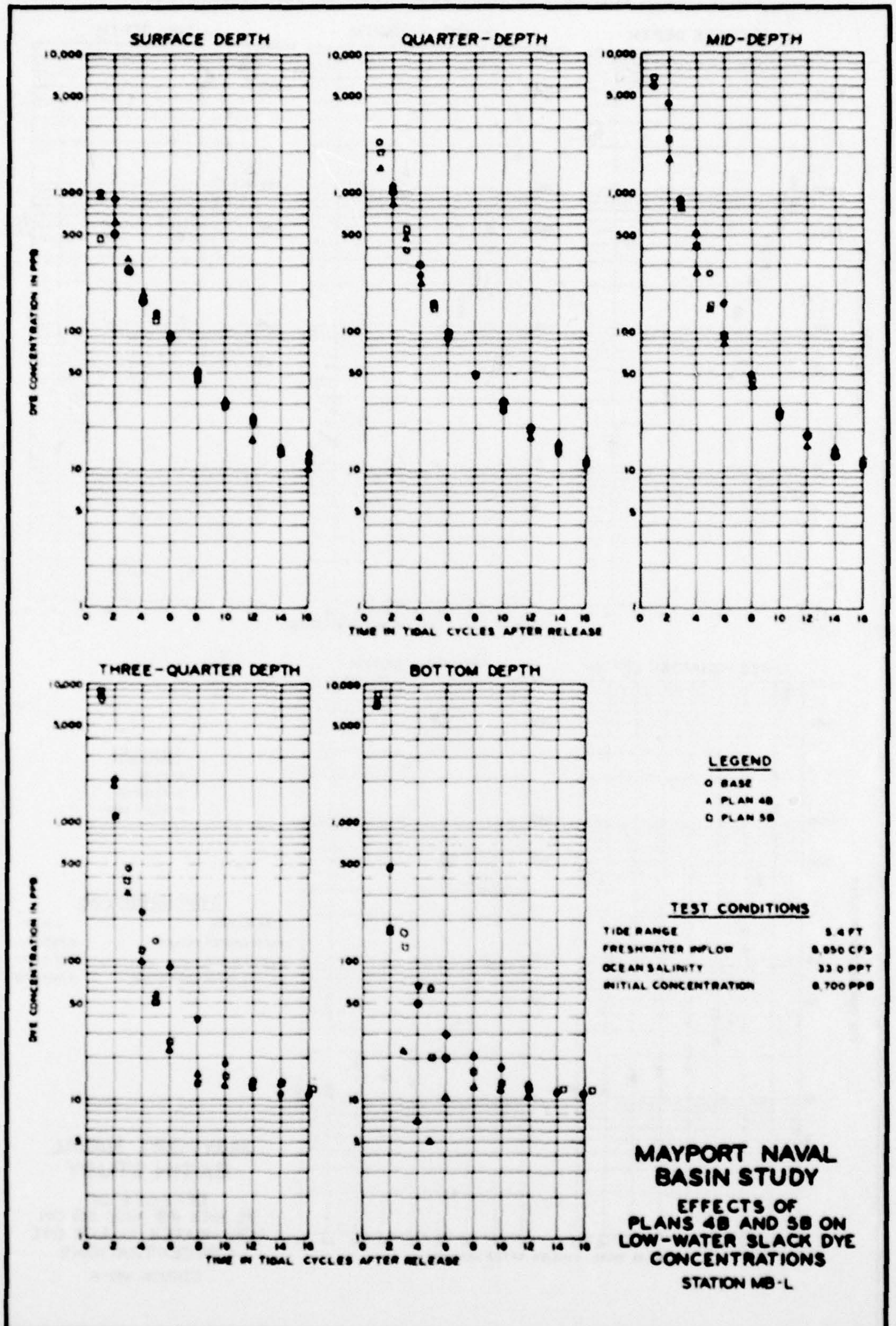

SURFACE DEPTH
QUARTER-DEPTH
MID-DEPTH
THREE-QUARTER DEPTH
BOTTOM DEPTH
DYE CONCENTRATION IN PPB
TIME IN TIDAL CYCLES AFTER RELEASE
LEGEND
O BASE
▲ PLAN 4B
□ PLAN 5B
TEST CONDITIONS
TIDE RANGE 5.4 FT
FRESHWATER INFLOW 8,950 CFS
OCEAN SALINITY 33.0 PPT
INITIAL CONCENTRATION 8,700 PPB
MAYPORT NAVAL BASIN STUDY
EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS
STATION MB-K

PLATE 295

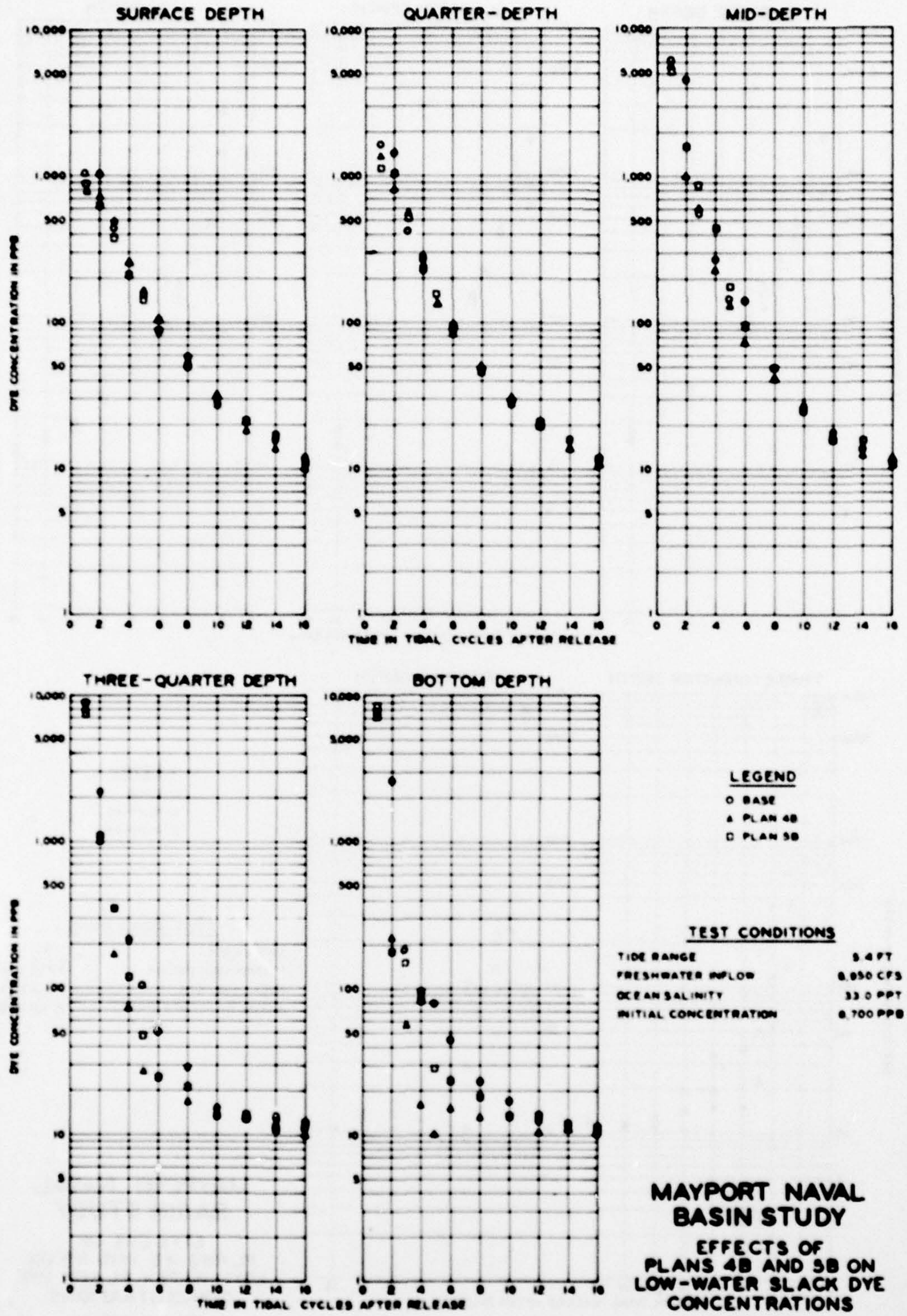


MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-L

PLATE 296



LEGEND

- O BASE
- ▲ PLAN 4B
- □ PLAN 5B

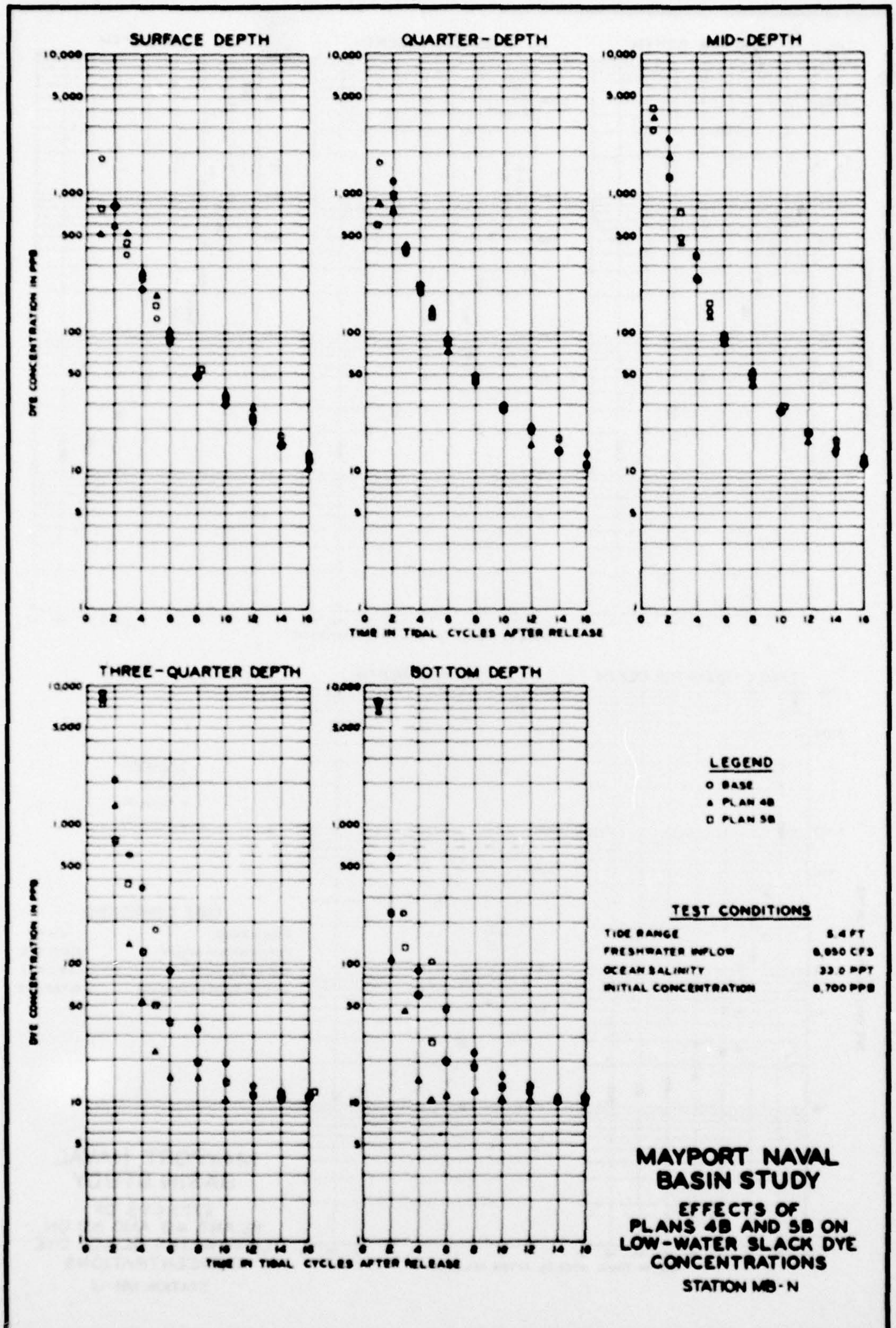
TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,850 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-M

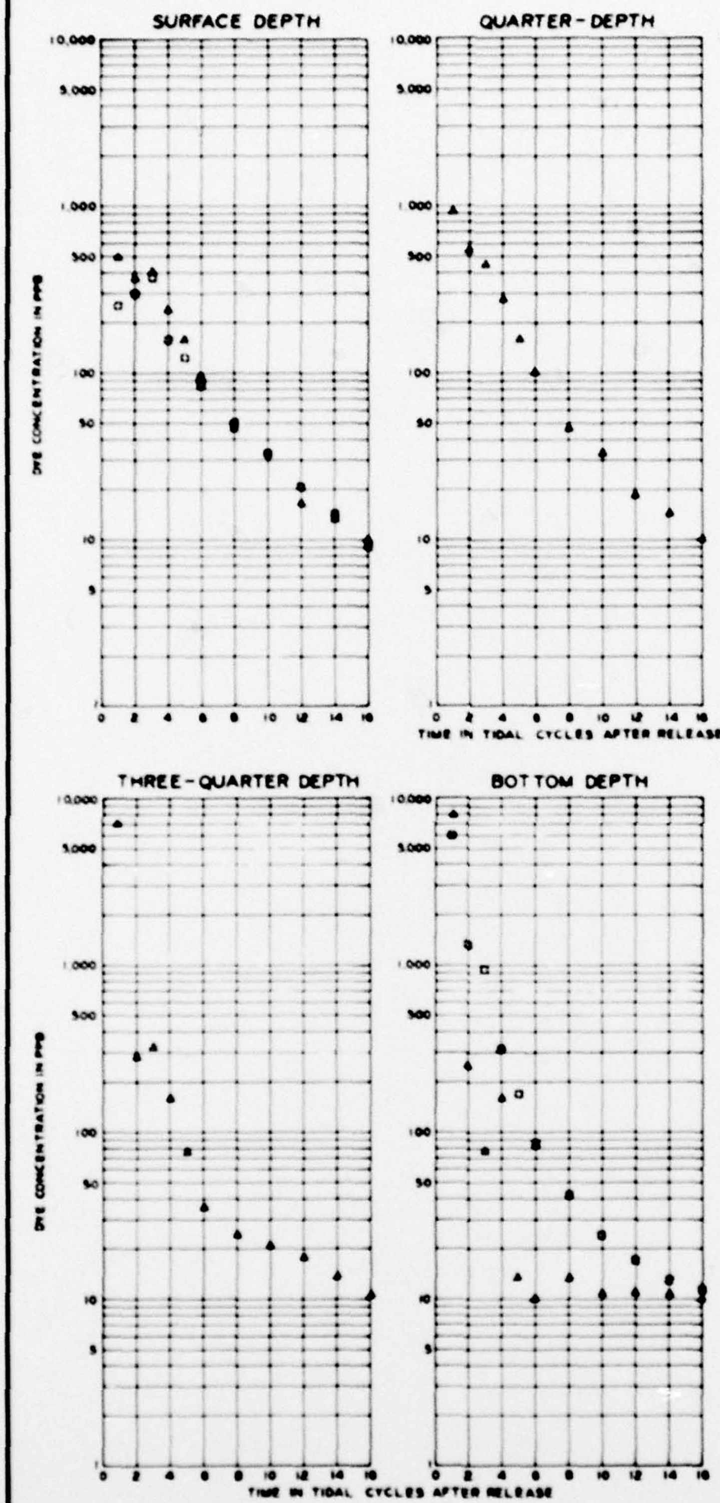


MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-N

PLATE 298



LEGEND

▲ PLAN 4B
□ PLAN 5B

TEST CONDITIONS

TIDE RANGE	5.4 FT
FRESHWATER INFLOW	8,050 CFS
OCEAN SALINITY	33.0 PPT
INITIAL CONCENTRATION	8,700 PPB

MAYPORT NAVAL BASIN STUDY

EFFECTS OF PLANS 4B AND 5B ON LOW-WATER SLACK DYE CONCENTRATIONS

STATION MB-P

In accordance with letter from DAEN-RDC, DAEN-ASI dated 22 July 1977, Subject: Facsimile Catalog Cards for Laboratory Technical Publications, a facsimile catalog card in Library of Congress MARC format is reproduced below.

Brogdon, Noble J

Mayport-Mill Cove model study; Report 2: Mayport Naval Basin study; hydraulic model investigation / by Noble J. Brogdon, Jr. Vicksburg, Miss. : U. S. Waterways Experiment Station ; Springfield, Va. : available from National Technical Information Service, 1979.

47, [56] p., 299 leaves of plates : ill. ; 27 cm. (Technical report - U. S. Army Engineer Waterways Experiment Station ; HL-79-12, Report 2)

Prepared for U. S. Army Engineer District, Jacksonville, Jacksonville, Florida.

1. Fixed-bed models. 2. Flushing. 3. Hydraulic models. 4. Mayport-Mill Cove. 5. Mayport Naval Basin. 6. Salinity. 7. Shoaling. I. United States. Army. Corps of Engineers. Jacksonville District. II. Series: United States. Waterways Experiment Station, Vicksburg, Miss. Technical report ; HL-79-12, Report 2.

TA7.W34 no.HL-79-12 Report 2